N.Bulle (2015) “Changes of the French educative system and inequality of opportunity issues: Going beyond preconceptions” in Gianluca (Ed.) *Paradoxes, Mechanisms, Consequences: Essay in honor of Mohamed Cherkaoui*, Oxford: Bardwell Press, pp.21-40.

Changes of the French educative system and inequality of opportunity issues: Going beyond preconceptions

Nathalie Bulle, CNRS (GEMASS)

1. Evaluating democratization policies

When it comes to assessing school policies and interpreting observed trends, a major problem arises in sociology. In fact, the measurement of inequality of opportunities and its evolution over time is one of the most complex issues that sociology of education has to resolve. There are just as many ways of solving this problem as there are ways of conceiving of equality between social groups.[1] Each measure of inequality supports an argument and is linked to a particular aspect of inequality. However, as far as the evaluation of democratization policies are concerned, once the problems posed by "quantitative" democratization (access to education) have been overcome to a large extent, we turn our attention to a new, very precise object. We wonder if the social groups which had the lowest level of access to education in the system's previous state have progressed relatively better than the others.

This question itself refers to two different problems. The first is related to the evolution of the inequality of links between school structure and social structure. The second is related to the evolution of the inequality of micro-sociological processes of selection – in the broadest sense, including all processes the effects of which influence the chances of access to the school level

[1] See on this subject in particular: J. C. Combessie, 1984, "L'évolution comparée des inégalités: problèmes statistiques", *Revue française de sociologie*, XXV, p.233-254 and the debate on this subject published in the same issue of the *Revue Française de Sociologie*.

under consideration – independent of the distribution of educational levels. This is one of the most widespread implicit interpretations of what is known as qualitative democratization. It is a question of knowing whether the differences observed from one period to another in terms of inequality of opportunity can be attributed to the opening up of the educational system, that is to say, to the increase in the number of individuals attaining the higher levels of the educational system, or if they reflect a variation in the results of the micro-sociological processes of "selection". That is what we will refer to below as inequality in the selection process. Assessments on this subject have been carried out until now on the basis of measures that are inappropriate for this specific aspect of inequality.

Furthermore, to support the inter-temporal or inter-societal comparisons between populations, we need measures that are "insensitive to margins". Margins insensitivity, in a broad sense, means that the intensity of inequality measured by the measure at stake keeps its significance whatever the margins' values of the contingency table are, one condition being that in each context defined by the contingency table's margins, the same magnitude of inequality may be observed. Hence, an index's insensitivity to the distributions of margins allows margin-free comparisons regarding the precise aspect of inequalities the index measures.

The measurement of odds ratios and the associated log-linear models offer a response to the first problem posed, that of the intrinsic evolution in the inequality of links between school structure and social structure. Also, Bulle (2009) proposed a measure in response to the second problem, that of the measurement of inequality regarding selection. This measure responds to a central question in the assessment of democratization policies. In fact, its aim is to understand observed trends on a macrological level, using a measure that apprehends the results of the micrological processes that generate inequality of opportunity.

The usual measures of inequality of opportunity do not permit such a level of understanding. The fact of passing (versus failing) the baccalaureate does not have the same meaning in terms of relative success (versus relative failure) when 20% of individuals in a generation obtain the baccalaureate diploma and when 80% of them obtain it. This is shown by the frequent observation that inequality is simply moved from one level to another in the educational system as levels of education are opened further.[2] The measured intensity of the inequality of the micro-processes in play must retain the same meaning regardless of the opening-up of access to the school level under consideration.

In this perspective, inequality in the selection process is defined as a measure permitting comparison of the results of the selection process for access to a discrete good *G* in a reference mark independent of the variation of overall access to *G* (such as deciles, centiles, etc.). Bulle (2009) developed such a measure which, moreover, is insensitive to margins. By relying on this index of inequality of opportunity, the present article aims to compare the results obtained with important interpretations of changes in inequality of educational opportunity accompanying the expansion of secondary and higher education in France. This analysis shows that the method yields substantively different conclusions than those drawn in other contributions based on the same data.

2. Defining an index of inequality in the selection process

Generally, inequality of access to a discrete good *G* can be ascribed to:

[2] See on this subject D. Merllie (1985), "Analysis of the interaction between variables. Statistical or sociological problem?", *Revue Française de Sociologie*, 26, 1985, p .629-652.

(1) Net results of the selection process in a broad sense. This concerns the effects of all of the factors influencing individuals' opportunities of access to *G* and defining a fictitious rank of precedence for access to *G*, but taking no account of individuals' actual access.

(2) Diffusion of *G* in society, i.e., the overall fraction of the population accessing to *G*.

Inequality with respect to (1) is inequality in the selection process, defined as a measure permitting comparison of the results of the selection process for access to *G* in a reference mark independent of the variation of overall access to *G*. The access of individuals from different sub-groups C_i to a discrete good *G* can be interpreted as stemming from a virtual ranking of individuals from the whole population, as well as a function of the available quantity of *G*. This ranking permits one to refer to a fixed reference mark of relative opportunity, such as the percentile ranks of the population. Inequality of subgroups C_i regarding such a reference mark represents what is defined as 'inequality in the selection process'.

$\bigcup C_i = C_g^+$ is defined as the set of subgroups C_i where individuals have opportunity of access to *G* lower than the average. We consider the virtual linear opportunity distribution of individuals from C_g^+ such that knowing the overall access rate to *G*, this opportunity distribution could underlie the observed access to *G* of individuals from C_g^+. Note that linearity is just a heuristic construct: it represents allocation mechanisms which do not differ across the percentile ranks of the population and therefore allows to comparing inequality in the selection process between populations showing various levels of overall access to *G*.

The inequality coefficient $\tilde{a}_g$ which will interest us in the following may be interpreted as the slope of the straight line segment characterizing the opportunity distribution defined. Bulle (2009) shows that the coefficient $\tilde{a}_g$ represents an overall measure of inequality in the selection process

and is insensitive to margins (x_j, the overall access rate to G, and m_g, the fraction of the whole population in C_g^+).

If the coefficient a_g defined in equation (I): $a_g = \frac{2 \times m_g \times (x_j - r_g)}{(1 - x_j) \times x_j}$ verifies equation (II): $\frac{a_g}{2} \leq m_g \leq 1 - \frac{a_g}{2}$, the general case applies. In such a case, the inequality coefficient $\tilde{a}_g$ is such that $\tilde{a}_g = a_g$ (see appendix). Then - and essentially when the general case applies - $\tilde{a}_g$ corresponds to twice the value of the difference of proportions comparing columns of the contingency table - i.e. obtained by subtracting the fraction of the disadvantaged subgroup in the subgroup accessing to G to the fraction of the disadvantaged subgroup in the subgroup excluded from G.

The method of evaluating inequality of selection used here is applied, in what follows, to the data on which critical analyses of the democratization of education in France, were based. The results obtained will allow us to re-examine classical interpretations of schooling policies effects in the context of expansion of the French educational system.

3 – Changes in inequality of educational opportunity: conflicting results and alternative explanations

3.1 Explaining changes in inequality of access to secondary education

The results obtained for the whole of France from Training-Professional Qualification (FQP) surveys, which were conducted by the National Institute of Statistics and Economic Studies (INSEE) in 1970, 1977, 1985, 1993, and 2003 can be compared with certain key results from the

study conducted within the Orléans metropolitan area, and presented in the Prost report. Cohorts as a function of the years of leaving primary school were constituted for this purpose.

Up to the end of the 1950s, changes in the total number of students receiving education at the secondary level constituted the leading factor in the democratization of the educational system. Statistics concerning the social origin of first-year secondary students (*sixième*) from 1936 to 1960 published by Alain Girard in *Population* in 1962 (I.N.E.D. 1970; Prost 1986: Table I.2) show that the representation of children of manual workers among these first-year secondary students went up sharply immediately after 1945 (rising from 2.7% to 12.4%), then remained stable until 1958, when this representation began to trend upward again. According to Prost, on the basis of these observations, the stability of social recruitment among first-year secondary students prior to the reforms of 1959 and 1963, which are at the origin of the extension of the schooling obligation from the age of 14 years to the age of 16 years[3] and of a start in the unification of secondary institutions, is undeniable, and if democratization had occurred, it had done so at the level of the *cours complémentaires* – which proposed a short secondary curriculum – not counted in national statistics. Otherwise, after 1958, since progress in the representation of the children of manual workers took place in all levels of study, this progress could not be considered the result of reforms that only affected first-year students. The hypothesis formulated to explain this circumstance is *that expansion of the educational system, past a certain saturation point, brought about a reduction in the inequality of opportunity*, the recruitment of additional students involving an appeal to different social strata (Prost 1986: 56).

[3] We note here that the obligation to attend school until the age of 16 under the January 6, 1959 decree, which only concerned 6 year-olds who were entering the first year of primary education in 1959, 8 years later, i.e. in 1967, affected 14 year-old students who were then obliged to extend their schooling.

Now, upon the basis of the INSEE surveys that did take into account the *cours complémentaires*, if we look at changes in the representation of the children of manual workers among students entering school at the secondary level, we actually observe few differences between the situation before and after the Second World War, but the rate stagnates at around 23% up to the middle of the 1950s, then increases fairly rapidly until the middle of the 1970s, at which time the representation of the children of manual workers among students entering the secondary level is practically equal to their representation among students finishing primary school. Prost's hypothesis (formulated above) is thus unfounded since the trends observed cannot allow us to conclude that there was a variation of inequality of opportunity in the selection process over time. In fact, we can easily show that, even if the level of inequality in selection remained stable, the rate of school attendance for children from disadvantaged social groups, i.e., the groups showing a rate of access to secondary school below the overall access rate, would increase along with the expansion of the educational system, and would do so at an increasing rate, while rates of school attendance for children from advantaged social groups would increase at a diminishing rate. To illustrate this dynamic of change, we may compare the theoretical values for the rate of school attendance for students from the disadvantaged social group – this group is formed here by children from families of manual workers and farmers – in the case where the distribution of their relative opportunity in the selection process should remain stable over the entire period, with the real values for these rates of school attendance. For this calculation, the coefficients of inequality of opportunity in selection were calculated for different five-year consecutive periods marked off here. The theoretical rates for school attendance r_g are deduced from equation (I) by means of (1) a stable theoretical inequality of opportunity in selection with a coefficient of inequality of opportunity equal to the average value of this coefficient over the period under study, and (2) the real marginal values (that correspond here to the proportion x_j of the population gaining access to

secondary education and to the fractions m_i of children from families of manual workers and farmers in the population leaving primary school). It appears that the real values and the theoretical values, which would be obtained in case of stability of inequality of opportunity in the selection process, vary in a quite comparable manner (see Table I).

Table I – Changes in entry rates in secondary education in France, theoretical rates given under the hypothesis of stability of inequality of opportunity in the selection process

Period %	*Before 1930*	*1931-1935*	*1936-1940*	*1941-1945*	*1946-1950*	*1951-1955*	*1956-1960*	*1961-1965*	*1966-1970*	*1971-1975*	*1976-1980*
					Children of farmers and manual workers						
Rates of secondary school entrance	10	17	17	18	17	26	38	43	64	89	93
Theoretical rates of entrance	13	19	21	19	19	28	37	41	60	88	94
					Children of the rest of the schooling population						
Rates of secondary school entrance	45	55	61	54	54	66	74	76	85	96	98
Theoretical rates of entrance	41	52	55	52	52	64	74	78	90	98	99

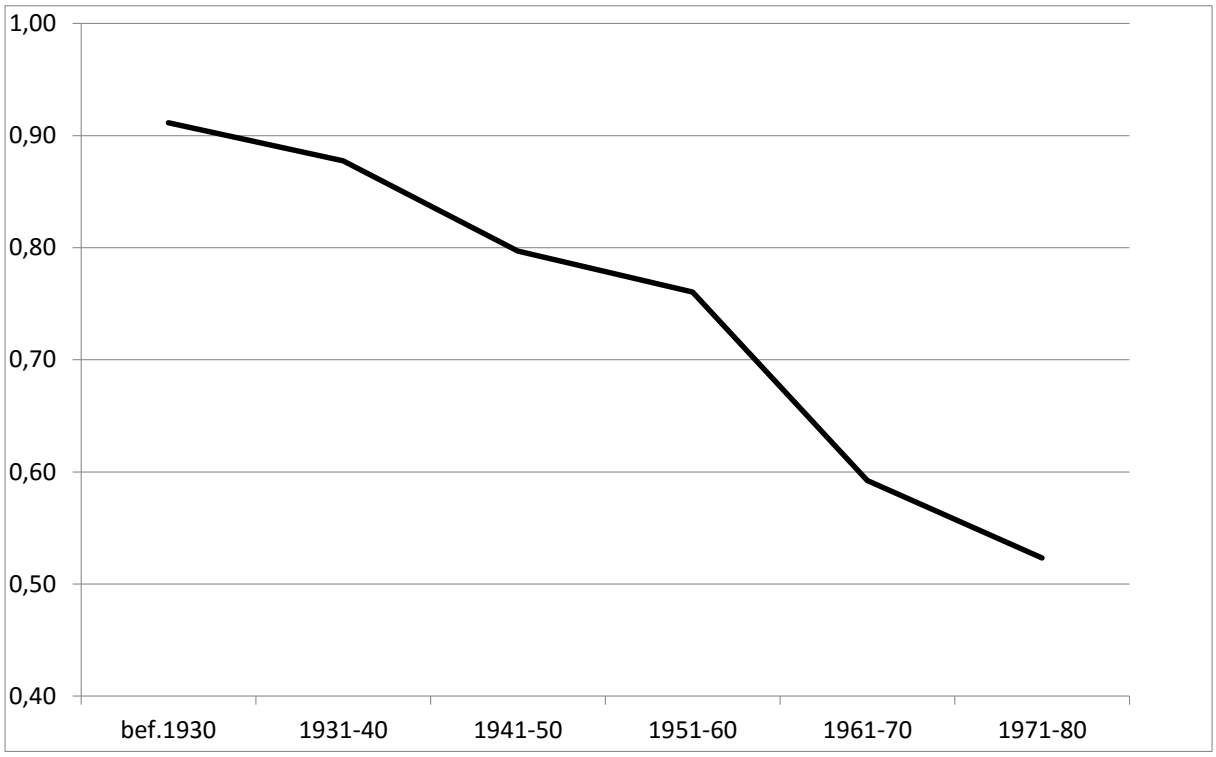
Source: FQP surveys conducted by INSEE in 1977, 1985, 1993, 2003

In reality, the coefficient of inequality of opportunity in selection for gaining entry to first-year secondary study varies significantly over the period. Overall, it fell from the beginning of the 20th century, with a value of 0.9, until the end of the 1980s, attaining a value close to 0.5 (cf. Figure I). The decrease in inequality was slightly faster in the 1960s. Prost's assumption of a threshold effect reflecting priority given to children from advantaged social groups is therefore invalidated by the continuous and progressive aspect of the reduction in inequality of opportunity in the selection

process for access to secondary education. Moreover, this progressive aspect tends to show that the democratization of access to secondary education was more endorsed than caused by schooling policies.[4] Indeed, the very influence of the latter cannot be separated from the economic transformations of the post-war period, leading to increased standards of family life and an increased need for skills in the labor market, correlative to an acceleration of the dynamics of access to secondary education by an endogenous movement, the maximum speed being situated in the mid-1960s. The development of this rate x_j can be compared, as Cherkaoui (1982:39-41) shows (in the case of access to the baccalaureate), to the diffusion of a cultural good, which can be modelled by a logistic function that would describe the endogenous rhythm of diffusion over time. Summarizing these changes, our hypothesis is that the decline in inequality of selection for access to secondary education is linked to the merger of the primary and secondary levels of education that made secondary studies into a regular prolongation of primary education. Such a merger reflects the change in the rapport families have with school, and this is reflected by a progressive decrease in inequality at selection.

Figure I – Evolution of inequality in the selection process for access to secondary education – Decades of entry in secondary education

[4] We note, as another illustration of this aspect of school policies, that the decrease in the percentage of students who obtain a baccalaureate in Philosophy preceded by about a decade the reform of medical studies by the Debré reform of 1958, which focused new programs on basic sciences in particular. Cherkaoui (1982: chap. 6).



Source: FQP surveys conducted by INSEE in 1977, 1985, 1993, 2003

To sum up: even if the pace of change in access rates for children from families of manual workers and farmers at the secondary level was quicker than that for non-manual workers and non-agricultural categories, this was principally due to the general increase in attendance rates – such changes would have occurred if selection inequality for entry to secondary level had remained constant. This is made clear by a comparison of the real entry rates and the theoretical entry rates under such an assumption. Nevertheless, the analysis of the inequality in the selection process during the expansion period of the first cycles of secondary education demonstrates that the democratization movement was not uniform. Inequality in selection for access to secondary education declined throughout the 20th century, at a pace which suggests that the results of the selection process reflect firstly changes in situational factors that affected the structure of the decision process on the part of individuals from various social categories – economic development, integrative schooling policies, and interdependence of choices.

3.2 Explaining changes in inequality of educational attainment in secondary education

Log-linear models have been used for the analysis of the connection between social origin and level of education in secondary education in France. These analyses may conclude that inequality of opportunity is persistent (Garnier and Raffalovich 1984; Goux and Maurin 1997) or that it is falling overall (Thélot and Vallet 2000; Vallet 2004) or in part (Garnier and Smith 1986) as a function of models, specific levels of education, or specific time-frames. Nonetheless, interpretations developed on the basis of these analyses have tended to assimilate the changes over time of *net connections* between social origins and educational levels, measured by *odds ratios*, to the changes over time in the selection process as defined here.

The students cohorts surveys '*Panels d'élèves 1980 and 1989*' conducted by the National Education Ministry, concerning students who entered the first year of secondary education (*collège*), respectively, in 1980 and 1989, allow us to study school destinations of cohorts that are detailed and nationally representative.[5] On this basis, Thélot and Vallet (2000) compare the relative chances of children of higher-grade professionals and managers *versus* children of manual workers of getting or not getting a baccalaureate certificate, or a certain type of baccalaureate certificate. If we use the same empirical basis and consult the results from panels 1980 and 1989, presented in Tables II and III, respectively, we see a reduction in the gap in relative access rates for baccalaureates between disadvantaged and advantaged categories. It appears that, among those students who entered first year of *collège* (6th grade, *sixième*) in 1980, the chances of obtaining, as opposed to not obtaining, a baccalaureate, whatever its type (academic, technical, or vocational),

[5] 1980: A group of 20 000 6ème (6th grade) pupils was monitored for ten years - 1989: A group of 27 000 6ème pupils was monitored for 12 years.

for children of higher-grade professionals and managers was 10.8 times higher than that given for manual workers' children, even though the same relation of relative chances scored 7.5 among the entrants to first-year in 1989. The gap in relative access rates for academic and technical baccalaureates calculated for the same social categories drops from 11.2 to 9.7 and the gap in access for an academic baccalaureate from 15.8 to 12 between the 1980 and 1989 cohorts.

Table II –Achievement of students who entered first-year of secondary education in 1980, by social origin (PCS)

% raw	*General*	*Technical*	*Vocational*	*Non bachel.'s*	*Total (number)*
Farmers	18.2	11.0	0.6	70.4	1193
Artisans	27.3	11.0	0.4	61.3	1813
Higher-grade prof. and manag.	67.5	8.0	0.3	24.2	1889
Lower-grade prof. and manag.	35.6	14.0	0.9	49.6	3165
Employees	20.1	12.1	1.1	66.7	3173
Manual workers	11.6	9.9	1.0	77.4	6685
Not working	8.9	5.8	0.7	84.6	1114
Total (number)	4624	2034	161	12213	19032

Source: Ministry of National Education *Student Panel* 1989

Table III – Achievement of students who entered first-year of secondary education in 1989, by social origin (PCS)

% raw	*General*	*Technol*	*Vocational*	*Non bachel.'s*	*Total (number)*
Farmers	39.0	14.1	9.8	37.0	793
Artisans	35.7	16.1	8.3	39.9	2105
Higher-grade prof. and manag.	74.4	10.5	2.4	12.8	3048
Lower-grade prof. and manag.	48.9	18.9	6.3	25.9	4076
Employees	30.2	17.6	8.8	43.4	2740
Manual workers	19.5	17.1	10.9	52.5	7772

Not working	12.3	11.1	7.0	69.7	955
Total (number)	7782	3453	1739	8515	21489

Source: Ministry of National Education *Student Panel* 1989

Now, if we calculate the corresponding coefficients of inequality of selection $\tilde{a}_g$ for the two cohorts, we get a different picture of the course of these changes over time. The coefficient of inequality for access to the baccalaureate drops a little, from 0.58 to 0.54, in connection with the creation of vocational baccalaureates. However, the coefficient of inequality of selection for access to academic or technological baccalaureates rises, from 0.59 to 0.61, while the coefficient of inequality of selection for access to the academic baccalaureate decreases slightly (from 0.70 to 0.69). In fact, opportunity of selection for access to general or technical baccalaureates does not vary significantly from one cohort to another. If we distinguish between girls and boys, diverse trends appear. A shift in the inequality of opportunity in the selection process is observed in the case of the girls, mainly due to their growing investment in education during this period, whereas the relative situation of the boys on the other hand tended to deteriorate. These developments occurred during a period marked by a major phase of the expansion of second cycles in secondary education. Indeed, for the two cohorts studied, the number of baccalaureate holders passed from 36% to 60%, those with a general or technological baccalaureate went from 35% to 52% and those with a general baccalaureate went from 24% to 36%. This phase was accompanied by schooling policies supposed to enhance the equalization of opportunity in the selection process through a diminishing of various kinds of streaming and educational renovation through a levelling of academic standards (orientation law on Education in1989 and pedagogical renovation of the *lycée* in1992). The first cohort was not exposed to these educational and structural changes, and the second cohort was exposed to them during their high school studies.

We thus observe a stability or increase of inequality in the selection process in the last period studied which is characterized by an opening of access to the baccalaureate degree and a development of democratization policies. It is definitely the case that the changes observed above, which show a weakening of the net associations between social origins and access to the academic or technical baccalaureates, are essentially the consequence of the opening up of these baccalaureates, that is, of quantitative democratization. In fact, however, they conceal the trend of inequality in the process of selection for gaining access to the academic or technological baccalaureates to increase for boys in the reformed system.

3.3 - Has higher education "consecrated the cultural privileges of the upper classes"?

According to the analyses of Bourdieu and Passeron in *La Reproduction* (1970), the expansion of higher education is supposed to have 'consecrated the cultural privileges of the upper classes'. Bourdieu and Passeron (1970:260) refer, in this context, to the changes in the absolute or objective chances of individuals as a function of their social origin: in particular, they refer here to the changes in rates for access to higher education according to socio-professional origins between 1961-1962 and 1965-1966. This access was curtailed so drastically as to make success simply improbable for individuals from socially disadvantaged classes, while at the same time it became commonplace for individuals from the 'upper' classes. Still, however, the differentiation of the educational system would conceal the conservation of chances of obtaining educational credentials of a certain relative rarity, and, in correlation, the simple translation of the structure of objective chances for individuals originating in the various categories. Based on this same data, Bourdieu, Boltanski, and Saint-Martin (1973) also develop a thesis on the conservation of relative distances between the categories over the period of system expansion. The substitution of cultural capital in the role once played by economic capital in the process of mobility is thought to have brought

about a kind of inflation of educational credentials and, as a reaction, an overinvestment in education from privileged categories, thus producing a simple transposition of objective chances for the individuals in these categories (Bourdieu, Boltanski and de Saint Martin 1973:112).

Baudelot and al. (1981) resumed the discussion on inequality of opportunity for access to higher education, basing their analyses on a longer period of time, that is, access to higher education between 1959-1960 and 1975-1976. These sociologists proposed to evaluate the changes over time of inequality of selection. More specifically, they asked this question: did the easing of selection criteria really constitute a process of catching up with the most advantaged, on the part of the least advantaged, or is it not rather the case that there has been, on the contrary, a simple quantitative transformation, without any modification of the social aspect of the process? To answer this question, they evaluated the 'proportion of beneficiaries of the expansion of Universities according to social background'. They calculated, from this point of view, the net number of beneficiaries by social category (the difference between the number of real beneficiaries and the number of beneficiaries that would have been observed if the access rates (r_{1959}) had remained stable between the two periods), which they compared with the number of potential beneficiaries of the expansion of the system according to social category (the number of those who would not have attended university if the access rates had remained stable between the two periods). The calculus is thus $(r_{1975}-r_{1959})/(1-r_{1959})$. The results are presented in Table IV. These results reveal a great variation in changes over time, according to social category, particularly a proportion of beneficiaries of the expansion of the universities of 3.8% for manual workers' children, contrasted with 55.0% for children of higher-grade professionals and managers. On the basis of these measurements, the authors of the analysis concluded that the most socially advantaged groups had benefited much more than others from the easing of selection criteria.

Table IV - Changes in university student body between 1959-1960 and 1975-1976, by CSP

Social origin	*Eligible to attend university (20-24 yrs)*		*Attended university*		*Proportion of beneficiaries of the expansion of the University*
	1959-60	1975-76	1959-60	1975-76	
Farmers	475000	442000	8784	35663	6.4%
Farm workers	164000	145000	1124	2984	1.4%
Large proprietors	319000	381000	31434	72238	10.1%
Higher-grade profess. and managers	139000	295000	51872	211848	55.0%
Lower-grade profess. and managers	160000	337000	32088	107620	14.9%
Employees, army and pol.	301000	458000	20051	102693	16.8%
Manual workers	1138000	1946000	5878	83864	3.8%
Others	222000	242000	22919	78885	24.8%
Total	2918000	4246000	174150	695795	11.1%

Source: C.Baudelot et. al., *Les étudiants, l'emploi, la crise*, Tables 3 and 4

To determine which categories have benefited the most from the expansion of universities, one might have calculated the progress of different odds ratios, in particular the chances of individuals from different categories, relative to the sons and daughters of manual workers, to gain admission rather than to fail to gain admission to university. These chances, in fact, diminish for all categories, sinking, for instance, from 115 to 57 for the sons and daughters of higher-grade professionals and managers.

Actually, if we calculate the overall level of inequality of selection in the population $\widetilde{a}_g$ based on the same data, it appears that it falls very slightly between the two periods, from 1.14 to 1.02. The results obtained here must nevertheless be considered with a degree of caution, because the fraction of each category in a generation is evaluated in a fairly imprecise manner based on the data

employed here, and the period studied is relatively short. Nevertheless, it would be false to conclude, on the basis of these data, that qualitative changes over time in the selection process had occurred in terms that were contrary to democratization.

4. Concluding remarks

Evaluating educational policies may often depend on being able to grasp the changes that affect the selection processes underlying inequality of educational opportunity. In this respect, it is important keep to a reference mark that retains a stable meaning with regard to the results of micro-sociological processes of selection, when overall access to the various educational levels under study varies. This is why we propose to interpret the effects of school policies in France by measuring inequality in the selection process. The method of measurement used here, which offers a solution to such issue and which is insensitive to margins, led to questioning some of the best-known assessments previously argued with regard to generative mechanisms of inequality of educational opportunity in France.

We were able to show that access to secondary education had been accompanied by a real reduction in the inequality of the selection process, and that this reduction had been fairly steady throughout the 20th century up to the enrollment in secondary education of a whole age group. In other words, we observed no threshold effect suggesting the inherent injustice of selective processes giving priority to children from advantaged social categories. Rather, we observed an increase in investment by all social groups in education, which confirms, at least on this point, the premises of the theory of modernization.

We also showed that, unlike the results of analyses based on ad hoc indices, the expansion of higher education was accompanied by a weakening of inequality at selection revealing, as was the

case for access to secondary education, a change in its role in the general economy of the French education system. These results invalidate in particular the old neo-Marxist assumptions of a stabilization, or even a worsening of inequality in the selection process following the increased numbers of places in academic pathways.

These developments, which were allowed by the gradual integration of the education system - the different levels of primary, secondary and higher education being placed in logical continuity with one another - are correlated to the economic transformations that occurred throughout the 20th century and their impact on both the demand and the supply of education. These results corroborate the founding premises of *L'inégalité des chances* (Boudon 1972), by showing that the evolution of families' situations of choice (higher economic levels and corresponding investment in school) has probably had a major impact on the weakening of inequality of opportunity in the selection process (here, for access to secondary and higher education).

We have shown, moreover, that the important educational and structural reforms of the1980s-90s, carried out in the name of democratization of the education system and involving a weakening of the curriculum's academic requirements and the explicit norms of educational achievement, had no positive effect on inequality in the selection process for secondary education, and even reinforced it. In this regard, we had to separate the cases of girls and boys from disadvantaged categories. The progress of the girls, through technological and professional baccalaureates in particular, appears to be a consequence of their increased investment in education. The tendency toward reinforced inequality in the selection process for boys regarding access to these same pathways could be the consequence of a decrease, between the two cohorts, in the relative educational achievement of the least successful population.

These developments in the inequality of boys in the selection process for access to the major types of baccalaureates can be substantiated by theories and research based on a rational conception

of the social actor. In the words of James Coleman (1990: 29), the relative intensity of the convergent school influences and the divergent out-of-school influences determines the effectiveness of the educational system in providing equality of educational opportunity. In fact, these theories and research reveal that convergent school influences increase when school develops clear selection processes, explicit norms of educational achievement and knowledge. These factors of educational achievement were revealed very early on by Cherkaoui (1972) using data from the International Project for the Evaluation of Educational Achievement in 1970-71.[6] Cherkaoui showed that in all countries academic stratification, section and type of establishment, was more determining of students' success than social stratification, with the exception of the American system in which, due to the "opacity of school structures" and, correlatively, the importance of family choices regarding the quality of their children's education, it was social class which was more determining[7]: "Comparing education systems teaches us that the more the academic criteria for selection are visible, explicit and immediately intelligible, the greater the precision of forecasts, risks are therefore reduced, investment in studies appears to be more justified and, finally; the success of students from the working classes is greater. Conversely, the more these rules are invisible, the greater the risks, the more important the phenomena of withdrawing pupils from disadvantaged classes and the lower their academic success." (Cherkaoui 1979 : 202). The French system has tended to develop during the period separating the two cohorts in the direction of greater opacity of its operating standards, corresponding to educational transformations made in the name

[6] These data relate to random samples of students whose ages fall below the age limit for compulsory education in the different countries considered (pupils aged between 13 and 13 years and 11 months).

[7] "Moreover, it is not inconceivable that this permeability of the American school system to the direct influence of the class structure might reflect a function of the expectations of the users themselves, who would be firmly convinced of its homogeneity, as opposed to Europeans for whom the section, the type of school, and the hierarchy of networks are as decisive for academic success as they are for the social status to come." Cherkaoui (1979: 94).

of success for all, which have led to a weakening of the academic requirements of educational programs, and the explicit and structured character of the teaching (Bulle 2009).

Finally, we believe we have shown the importance of understanding the results of microsociological processes of selection on the basis of a simple model, such as the one that the measure used here is based on. It offers the advantage of overcoming preconceived ideas relating to the processes that underpin the democratization of education systems, often biased by evaluative and political presuppositions. In future, its use could support more reliable interpretations of the effects of school policies and, in so doing, truly enlighten the latter.

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Practical guide for the calculation of $\tilde{a}_g$ [8]

1 – Calculate the access rates r_i to the good *G* of the various social subgroups C_i.

2 - $\bigcup C_i = C_g^+$ is defined as the set of subgroups C_i where individuals have opportunity of access to *G* r_i lower than the average x_j. The value m_g is defined as the fraction of the population in social subgroup C_g^+, r_g as the access rate to *G* of individuals from C_g^+.

Calculate $a_g = \dfrac{2 \times m_g \times (x_j - r_g)}{(1 - x_j) \times x_j}$

Case 1 General case

$\dfrac{a_g}{2} \leq m_g \leq 1 - \dfrac{a_g}{2}$ then $\tilde{a}_g = a_g = \dfrac{2 \times m_g \times (x_j - r_g)}{(1 - x_j) \times x_j}$

Case 2 $\tilde{d}(x, C_g^+)$ intersects the basis and not the top of the square where $\tilde{f}(x, C_g^+)$ is traced: $m_g <$ inf $(\dfrac{a_g}{2}, 1 - \dfrac{a_g}{2})$ then $\tilde{a}_g = 2 m_g [\dfrac{1 - \sqrt{r_g}}{1 - x_j}]^2$

Case 3 $\tilde{d}(x, C_g^+)$ intersects the top and not the basis of the square where $\tilde{f}(x, C_g^+)$ is traced:

$m_g >$ sup $(\dfrac{a_g}{2}, 1 - \dfrac{a_g}{2})$ then $\tilde{a}_g = 2 [\dfrac{\sqrt{1 - m_g} - \sqrt{1 - x_j - m_g + r_g m_g}}{x_j}]^2$

Case 4 $\tilde{d}(x, C_g^+)$ intersects the basis and the top of the square where $\tilde{f}(x, C_g^+)$ is traced:

$1 - \dfrac{a_g}{2} < m_g < \dfrac{a_g}{2}$ then $\tilde{a}_g = \dfrac{1}{2} [\dfrac{1}{\sqrt{r_g m_g} + \sqrt{1 - x_j - m_g + r_g m_g}}]^2$

[8] The values of $\tilde{a}_g$ in specific cases are developed in Bulle (2009: 583-588).