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An evaluation of the impact of industrial restructuring on individual human capital accumulation in France (1956-1993)

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Abstract

This article evaluates the effect of French industrial restructuring on individual human capital accumulation during 1956-1993. We use data from the French Training and Occupational Skills survey and the Population Census (INSEE). We estimate a function of human capital accumulation using two econometric strategies (controlling for covariates; instrumental variables). We show that industrial restructuring has a negative impact on individual human capital accumulation for the children of blue-collar workers.

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1. Introduction

Since the 1960s, the OECD countries have undergone severe industrial restructuring, especially in regions previously specialized in the mining, steel and textiles-clothing. This restructuring has had major impacts on the labour market, especially on unemployment and inequalities. Yet, the literature on industrial restructuring has not focused on its consequences on the human capital of succeeding generations. In this article, we empirically analyse the effects of industrial restructuring during 1956-1993 for France on individual human capital.

A large literature focuses on the consequences of industrial restructuring on labour, unemployment and inequality. Restructuring in areas formerly specialized in mining, steel or textiles has led to massive destruction of jobs and substantial higher unemployment (Craypo and Cormier, 2000; Newel and Pastore, 2000; Ostry *et al.*, 2001; Figura, 2003; Haller, 2005). At the same time, industrial restructuring is one of the main explanatory factors for increased inequalities in the areas affected, through destruction of human capital and increased competition in the labour market for low skilled workers (Bluestone, 1990; Cloutier, 1997; Bernard and Jensen, 2000; Beeson *et al.*, 2001; Beeson and Tannery, 2004; Taylor, 2006).

However, these studies evaluate the effects of industrial restructuring on current generations (parents), not future generations (their children). In areas previously specialized in traditional industries which have experienced strong industrial restructuring, we observe persistent low levels of education and poverty (Brady and Wallace, 2001 for Indiana, US; Fleury, 2007 for the Nord-Pas de Calais region, France). Parents' human capital[1] is eroded by industrial restructuring through unemployment and social downgrading (Ljungqvist and Sargent, 1998; Figura[2], 2003). Parental human capital has a strong influence on children's human capital (Haveman and Wolfe, 1995; Holmlund *et al.*, 2011). Industrial restructuring can have a negative impact on children's human capital *via* parental transmissions of human capital to children, and parental income (a function of parental human capital that plays mainly through expenditures on education). If parental human capital is partly destroyed by industrial restructuring, then intergenerational transmissions of human capital from parents to children will be reduced. Also, industrial restructuring, by reducing parental income, has a potential negative impact on the human capital of the children. Thus, industrial restructuring may diminish the individual human capital of the 'next generations' through these two channels. This effect of restructuring could explain a part of the regional differences in human capital attainment (see Table A1 in Appendix for a presentation of such differences in 1999).

There may be a third effect of industrial restructuring. Theoretically, as a consequence of sectoral evolutions in the economy, labour market adjustments may occur through inter-regional migration (Harris and Todaro, 1970). Some families may decide to leave their former working area and migrate in order to benefit from better labour market conditions in terms of wages as well as employment (Courgeau and Meron, 1995; Pissarides and Wadsworth, 1989). We explicitely take account of this possibility in our empirical strategy.

Hence, industrial restructuring is likely to affect individual human capital accumulation. Also, it can be argued that the effects of industrial restructuring may be heterogeneous, depending on social origins. A negative impact of industrial restructuring does not assume heterogeneity in the education strategies of the families affected. However, several studies provide evidence of different educational behaviour depending on the social origin of individuals. For instance, children from disadvantaged social backgrounds may make less ambitious education choices (Kellerhals and Montandon, 1991; Duru-Bellat and Mingat, 1988). In addition, budget constraints may limit their ability to pay for high level education.

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[1] Indeed, the skills of the workers are affected by industrial restructuring.

[2] The author defines restructuring as « *destruction and creation of job capital, where job capital comprises the human, physical, and organizational capital underlying particular jobs* » (p. 1).

Consequently, we assume that the impact of industrial restructuring will vary according to the social origins of individuals and the occupational status of their parents in particular. For instance, individuals from advantaged social background (*e.g.* parents are executives) may have benefited from industrial restructuring. If parents correctly anticipated the industrial restructuring shock and its consequences (technological changes), they may have encouraged their children to get high level diplomas or acquire skills they consider would be in demand in the labour market. We assume that parents from disadvantaged social backgrounds (*e.g.* blue-collar workers' families) may not have been able to anticipate the industrial restructuring and thus would be unable to encourage their children to make appropriate educational choices. Hence, these children will be likely to suffer a negative impact of industrial restructuring on their human capital accumulation. In this paper, we focus on the effects of industrial restructuring for the children of blue-collar worker parents.

This article econometrically evaluates the impact of industrial restructuring on individual human capital accumulation. More precisely, we analyse the effects of industrial restructuring during 1956-1993 for France. We focus on restructuring in the traditional industry sectors (mining, textiles and steel-metallurgy), which represent the main share of the business activities affected by 'deindustrialization' during that period. We use data from the French Training and Occupational Skills survey (*Formation et Qualification Professionnelle*; INSEE, 2003) and the French Population Census (INSEE; 1962-1999). We consider the final number of completed years of schooling as a measure for accumulated human capital.

We contribute to the literature on the impacts of industrial restructuring by studying its effect on the accumulation of human capital by the children of blue-collar workers. To study this impact, we estimate a function of human capital accumulation through two different strategies: first, only controlling for covariates; second, using instrumental variables methods. We show that industrial restructuring has a negative effect on the human capital accumulation of the offspring of blue-collar workers. The paper is organised as follows. Section 2 presents the empirical strategy. Section 3 describes the French education system and the data. Section 4 displays and discusses the results. Section 5 concludes.

2. Empirical strategy

2.1 Measuring industrial restructuring

We aim at analysing the extent to which industrial restructuring in France during 1956-1993 affected individual human capital accumulation. What kind of indicators should be used to account for industrial restructuring? Restructuring can be defined as substantial variation in the share of employment (or value-added) in a business sector within a given economy. This is the definition adopted in empirical work on the impact of industrial restructuring on employment and inequalities, which uses indicators of sectoral evolution defined as employment in the restructured business sector(s) (DiPrete, 1993; Bernard and Jensen, 2000) or compares employment in the focal business sector with total employment in the considered economy (Newel and Pastore, 2000; Beeson *et al.*, 2001).

We focus on variations in the share of employment in traditional industries (ΔSTI) in total employment, during a particular time period, and in a given area. As 'traditional industries' business sectors, we consider sectors mainly affected by deindustrialization during 1956-1993 in France: steel-metallurgy, mining, textile-clothing. We take account of the French *département* (NUTS 3) of birth of the individual and compute ΔSTI on a given period of time as follows:

$$\Delta STI = \Delta\left(\frac{number\ of\ workers\ in\ traditional\ industries\ in\ the\ French\ département}{employed\ active\ population\ in\ the\ French\ département}\right) \qquad (1)$$

We compute two industrial restructuring indicators. Both of them depend on the time period considered over the youth of the individual. We first consider the indicator ΔSTI_{6-20}, computed from age 6 to 20 of the individual. Over that time period, the individual is assumed to have completed a large part of his education. Indeed, age 6 corresponds to entry in the *Ecole élémentaire* (French primary school); age 20 refers to the age at which most people have completed their secondary education. In the second case, we consider ΔSTI_{6-14}, computed from age 6 to age 14. This time period refers to a restricted education period (age 14 corresponds to the theoretical end of the first part of French secondary school).

2.2 Estimating a function of human capital accumulation

This study overlaps the literature on the empirical determinants of individual accumulation of human capital (Haveman and Wolfe, 1995). We estimate the following function of human capital accumulation at the individual level:

$$Y = \alpha + \beta_0 \Delta STI + \sum_j \beta_j (\Delta STI \times PCS_j) + \gamma Y^P + \omega X + \delta U + \varepsilon \qquad (2)$$

The outcome variable Y is the educational attainment of the individual (child). As a measure of education, we consider the number of years of schooling. The number of years of schooling corresponds to the length of the completed education, corrected for repeated years and possible breaks.

The treatment variable ΔSTI is an indicator for industrial restructuring (the indicators ΔSTI_{6-20} and ΔSTI_{6-14} defined in section 2.1).

In the empirical model defined by equation (2), parental human capital (Y^P) is exogenous in relation to industrial restructuring. Indeed, parental human capital measured in micro-data corresponds to the measure of the parental education at the end of their schooling. Hence, it cannot account for the destruction of human capital subsequent to industrial restructuring. Moreover, we have to stress that to some extent father's socio-professional category may capture parental income because this category is highly correlated with household income (Nickell, 1982; Johnson, 2002) and is very stable in the long run (Nickell, 1982; Ermisch and Francesconi, 2002). Nevertheless, father's socio-professional category is a raw and little detailed variable, and is thus unable to capture any change in parental income that would be subsequent to industrial restructuring. Hence, father's socio-professional category is exogenous relatively to industrial restructuring. Overall, in equation (2) the estimated coefficient β_0 accounts for the effect of restructuring on the individual's education. We insert the interactions of ΔSTI with the occupational status of the father of the individual ($\Delta STI \times PCS_j$, with j=1 to 6 referring to a particular occupation), to obtain the effect of industrial restructuring on individuals whose fathers are blue-collar workers.

As other control variables, we include factors commonly used in the literature on individual human accumulation. In particular, Y^P is a vector of dummies indicating diploma levels of parents, and X refers to a vector of other individual or family features (occupation of the father, parent's divorce, gender, ranking in the siblings). We also include a local variable (U : unemployment rate).

To obtain the causal effect of industrial restructuring, we need to take account of unobserved heterogeneity and, therefore, for the fact that industrial restructuring might be endogenous. Endogeneity of the industrial restructuring variable could bias the estimations. Unobserved variables have been omitted from the list of explanatory variables. Those variables might be correlated with both the outcome and the treatment variables. Indeed, a first strategy consists in controlling for all factors that are suspected to be correlated with both

the industrial restructuring and the educational attainment. That is why we consider usual determinants of educational attainment that appear to be also correlated to industrial restructuring. As well, some local variables of environmental or local education conditions could be correlated with both intensity of industrial restructuring and the level of educational attainment (typically, the unemployment rate is included in some of our econometric specifications). Is it enough to get a causal effect of industrial restructuring? It is difficult to control for all these variables because we still have access to a limited set of information thanks to our dataset. Hence, some bias should remain that is linked to unobserved heterogeneity (Heckman *et al.*, 1998). Thus, we might still wrongly attribute to deindustrialization some educational features that are linked to time evolutions or to geographical features of the French *département* (unobserved "local features").

A second strategy consists in using instrumental variables. Since ΔSTI may be endogenous, we have to find variables to instrument this variable. To be valid, an instrument should verify two conditions. It must be exogenous (exclusion condition) and it must be correlated sufficiently with the treatment indicator (the instrument is not weak). We will verify this condition by testing that our two levels of industrial are not weak instruments. The former assumption will be examined in the empirical analysis by performing the Sargan over-identification test, which tests the hypothesis of no correlation between the instruments and the residual term. As mentioned in Wooldridge (2010), it is relevant to use variables among $W_{t-1}, W_{t-2},\ldots, W_l$, to instrument a variable ΔW_t (with $\Delta W_t = W_t - W_{t-1}$). As Z instruments, we consider levels of industrialisation as measured at birth of the individual (STI_0) and 10 years earlier (STI_{-10}). Both indicators are measured before the beginning of the period over which industrial restructuring is computed). Thus, rather than considering the initial level of industrialisation (when the individual is 6 years old), we consider previous levels of industrialisation at two different moments of time. Hence, STI_0 and STI_{-10} are less likely to be highly correlated with ΔSTI_{6-20} and ΔSTI_{6-14} than STI_6. Moreover, to instrument $\Delta STI \times PCS_j$, we use the interaction variables $Z \times PCS_j$, (Wooldridge, 2010).

In our analysis, we will consider both strategies. We estimate a model that considers years of schooling as a measure for accumulated individual human capital (we use the logarithm of the duration of schooling for *Y*). We estimate equation (2) using OLS and then 2SLS.

Finally, introducing the industrial restructuring indicators computed at the French *département* level, into our equations, may bias the standard errors of the estimated coefficients (Moulton, 1986, 1990). Clustered standard errors are computed to account for individuals born in the same year and in the same French *département* being affected by industrial restructuring of same intensity.

3. Data

3.1 Quick overview of the French education system

Since France is not a federal state like the United States or Switzerland, there is one and only regulation for the organization of education at the national level. The regular 'timing' to enter *école élémentaire* (French primary school) is September of the civil year when the child is 6 years old. This entry comes normally (but not mandatory) after 3 years in *école maternelle* (French preschool). Yet, some children may not enter "regularly" according to the regulation: they may obtain dispensation to enter in primary school later, or even earlier. The minimum school leaving age is 16 since the introduction of the Berthoin law (1959) that elevates the minimum school leaving age from 14 to 16 for all individuals that are born in 1953 and after.
It is possible and also common for French students to repeat some years, due to some insufficient knowledge acquisition during a given schooling year. This phenomenon is

widespread, especially (but not only) during mandatory schooling (Maurin and McNally, 2008) and is more important than in any other OECD country (OCDE, 2003). It stands at a high level in France in the 2000s (Caille, 2004). All these features provide a quite high variability in the "number of years of schooling" completed by the French student. The explained variable in this study is the number of completed years of schooling, corrected by the number of repeated years (possible breaks during schooling are also excluded).

3.2. Data and descriptive statistics

The French Training and Occupational Skills survey

The French Training and Occupational Skills *(Formation et Qualification Professionnelle,* FQP*)* surveys are conducted by INSEE (the French National Institute for Statistics) and provide information on the occupational status of a representative sample of the population. These surveys also provide information on education and social mobility for two generations of individuals. For this study, we consider only the most recent survey, FQP 2003 (39,285 individuals born between 1939 and 1983).

The French Population Census

The French Population Census (PC) is a national survey that has been conducted by INSEE every 7 to 9 years between 1946 and 1999. This survey provides information at three different geographical scales in France: towns, *départements* and regions. The survey from 1999 deals with four main themes: population; living conditions; education; and labour-employment. We use information from this survey to build the industrial restructuring indicators presented in section 2.1, and to obtain unemployment rates at the French *département* level.

The Final sample

The final sample was built by merging available information at the individual level (the 2003 FQP survey) with the PC. We took account of the following features.

First, our study focuses on the consequences of deindustrialization in France since the beginning of the 1960s. Thus, we only consider individuals born after 1956.[3] We use the different waves of the PC (1962-1999) to build industrial restructuring indicators and unemployment rates at the French *département* level.

Second, at the time of the 2003 FQP survey, some individuals had not completed their studies. Failure to take account of this fact could bias estimations of the human capital accumulation function. To avoid this, we can estimate a selection model (daoul, 1979). However, this implies modelling the probability that the individual will complete her studies, and requires choosing variables that determine this selection without directly explaining the individual's final education level. Finding such instruments can be difficult. We chose to adopt an alternative solution by dropping from our sample all individuals aged less than 30 years: by this age, most individuals have completed their formal education. This criterion is exogenous: it does not introduce any selection bias. Thus, we exclude from our final sample all individuals born after 1973, thus who were younger than 30 in 2003.

Third, the French *département* where the individual is born is relevant to quantify the intensity of industrial restructuring affecting her until the end of schooling. The parents of some individuals may have moved from their original working area to avoid the consequences of industrial restructuring. The 2003 FQP survey provides information on the region of birth of the individual and the region of parental residence living at the end of the individual's

[3] The 1956 cohort was 6 years old in 1962.

schooling.[4] To account as far as possible for potential geographical mobility, we focus on individuals whose region of birth corresponds to the parents' region of residence at the end of the individual's schooling. We should stress that some individuals are no longer living with their parents at the time they finish their school education. According to the literature, this applies to a very large share of young adults that follow post-*baccalauréat* (A-level grade) studies and those who embark on working life (Dumartin, 1995). The 2003 FQP survey asks respondents where they live at the end of their study. The responses suggest that 85% of those born between 1956 and 1973 still live with their parents at the end of their studies. Also, our industrial restructuring indicators are computed for ages 6 to 20 (ΔSTI_{6-20}) or to 14 (ΔSTI_{6-14}). Hence, we exclude from the final sample individuals whose birth region and region of residence at the end of their schooling are different (1 in 6 individuals). In section 4.3 we discuss in detail the robustness of our results for the main sample.

The final sample is provided by merging, at the level of the FQP individual, the 2003 FQP survey (our main data set) with the data available at the French *département* level from the PC. The sample contains information on 11,887 French individuals born in 1956-1973. Table 1 provides some descriptive statistics[5][6].

Table 1. Descriptive statistics

Variables	Mean	Standard-error	Minimum	Maximum
Number of years of schooling	12.28[(a)]	2.95	1	28
VARIATION in the share of the working population employed in traditional industries in the *département* where the individual is born (percentage points)				
Between the birth and the 20th birthday of the Individual	-4.02[(b)]	4.61	-18.87	4.82
When the individual is 6 to 20 years old (ΔSTI_{6-20})	-2.87	3.38	-13.83	2.54
When the individual is 6 to 14 years old (ΔSTI_{6-14})	-1.84	2.23	-8.27	2.50
Father's highest diploma:				
No diploma or *Certificat d'études primaires (*Primary school degree)	64.54 [(b)]	47.84	0	100
*Brevet (*First part of general secondary school completed)	3.35	14.99	0	100
CAP, BEP (First technical-vocational degree)	20.43	40.32	0	100
Baccalauréat (*A*-level grade)	4.90	21.58	0	100
Bac+ 2 (2 years achieved at university)	2.29	14.95	0	100
Bac+3 and more (at least 3 years achieved at university)	4.50	20.73	0	100
Mother's highest diploma:				
No diploma or *Certificat d'études primaires (CEP)*	73.44 [(b)]	44.17	0	100
Brevet	5.16	22.13	0	100
CAP, BEP	11.57	31.98	0	100
Baccalauréat	4.30	20.28	0	100
Bac+ 2	3.52	18.42	0	100
Bac+3 and more	2.01	14.04	0	100
Being a woman	52.46 [(b)]	49.94	0	100
Ranking in the siblings	2.54	1.57	1	15

[4] The French *département* or the city of residence of the parents at the end of the schooling of their children is not available in the 2003 FQP survey.

[5] See Table A2 in Appendix for a detailed description of the variables.

[6] There are 3 individuals with one year of schooling in the dataset, and there are 14 out of 11,887 surveyed individuals (0.13% of the sample) that achieved fewer than 5 years of schooling. These people are often young and did not complete their primary school. Half of them did not pursue their schooling after repeated years or breaks during scholarship.

Variables	Mean	Standard-error	Minimum	Maximum
Occupational status of the father:				
Farmer	11.24 (b)	31.59	0	100
Shopkeeper	12.15	32.37	0	100
Executive	7.44	26.24	0	100
Intermediate worker	14.90	35.61	0	100
Employee	9.88	29.34	0	100
Blue-collar worker	44.17	49.66	0	100
Unemployment rate	2.80	1.71	0.25	9.37

Sources: FQP survey (INSEE; 2003), Population Census (INSEE; 1962-1999). Authors computations using SAS.
Field: 11,887 people born in France over 1956-1973 and who live at the end of their study in the same region.
Notes: (a) number; (b) percent.

4. Results

4.1. Estimations

First strategy: only controlling for covariates

We examine the estimated coefficients only controlling for covariates. Table 2 contains estimations results for the full specification. As an industrial restructuring, we consider ΔSTI_{6-20} in the first two columns and ΔSTI_{6-14} in the last two. For every indicator, we consider two specifications, one with and one without any local indicator (unemployment rate). Our estimations confirm the results found in the theoretical and empirical literature on the impact of parental features (education levels, occupational status) on the accumulation of individual human capital (Daouli *et al.*, 2010; Haveman and Wolfe, 1995; Becker and Tomes, 1986). The higher the diploma achieved by the mother or the father, the higher is the human capital accumulated by the child. Moreover, *ceteris paribus*, children of blue-collar workers exhibit smaller education levels than other social origins. Other variables have the expected impact on individual human capital accumulation: negative for ranking amongst siblings, positive for being female rather than male, and negative for occurrence of parental divorce during the child's school years.

The main finding is that the impact of industrial restructuring on individual human capital accumulation is always negative for the children of fathers who are blue-collar workers. For this category of individuals, the marginal effect of industrial restructuring is between -0.21 and -0.27%. Introducing local variables computed at *département* level (unemployment rate) rises the size of this impact only very slightly.

Second strategy: instrumental variables

Results of the second stages of the IV estimations are reported in Table 3.[7] Endogeneity of the treatment variable and its interaction variable with the father's socio-professional category is refused by the Hausman test in all cases. Otherwise, the *p*-value computed for the Stock and Yogo (2005) test indicates that our instruments are not weak[8], while the Sargan test indicates that the hypothesis of no correlation between the instruments and the residual term may not be rejected.

The size and signs of coefficients of control variables are similar to the ones provided by non IV estimations. The restructuring variable exhibits a slightly larger impact.

[7] See table A3 in Appendix for an example of first stage regressions, considering ΔSTI_{6-20} as a restructuring indicator and including the unemployment rate as an explanatory variable.

[8] Our restructuring indicators are measured over the youth of the individual (computed from age 6 to 20 for instance). Thus, their values are smaller than initial levels of industrialization and never equal to them.

Table 2. Impact of industrial restructuring on individual human capital accumulation (OLS estimates)

Explained variable: (log of) number of years of schooling		ΔSTI_{6-20}		ΔSTI_{6-14}	
		(1)	(2)	(3)	(4)
Intercept		2.3397***	2.3432**	2.3380***	2.3414***
		(0.0122)	(0.0125)	(0.0122)	(0.0123)
Industrial restructuring indicator		**-0.0021****	**-0.0022****	**-0.0026***	**-0.0027*****
		(0.0009)	**(0.0009)**	**(0.0014)**	**(0.0014)**
Industrial restructuring (ΔSTI) **x social origin**	***Blue collar worker*** x ΔSTI	***Ref.***	***Ref.***	***Ref.***	***Ref.***
	Farmer x ΔSTI	**0.0023**	**0.0024**	**0.0028**	**-0.0029**
		(0.0023)	**(0.0023)**	**(0.0035)**	**(0.0035)**
	Shopkeeper x ΔSTI	**0.0032**	**0.0031**	**0.0051**	**0.0050**
		(0.0022)	**(0.0022)**	**(0.0033)**	**(0.0033)**
	Executive x ΔSTI	**0.0055****	**0.0054****	**0.0066***	**0.064**
		(0.0026)	**(0.0026)**	**(0.0040)**	**(0.0040)**
	Intermediate worker x ΔSTI	**0.0043****	**0.0042*****	**0.0054****	**0.0053****
		(0.0017)	**(0.0017)**	**(0.0026)**	**(0.0026)**
	Employee x ΔSTI	**0.0047****	**0.0046****	**0.0066****	**0.0065***
		(0.0023)	**(0.0023)**	**(0.0033)**	**(0.0033)**
Father's highest diploma	*No diploma*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
	Brevet	0.0651***	0.0654***	0.0649***	0.0652***
		(0.0126)	(0.0126)	(0.0126)	(0.0126)
	CAP/BEP	0.0241***	0.0238***	0.0241***	0.0238***
		(0.0050)	(0.0050)	(0.0049)	(0.0049)
	Baccalauréat	0.0706***	0.0705***	0.0706***	0.0705***
		(0.0093)	(0.0093)	(0.0088)	(0.0088)
	Bac+2	0.1016***	0.1011***	0.1015***	0.1009***
		(0.0121)	(0.0121)	(0.0122)	(0.0122)
	Bac+3 and more	0.1159***	0.1159***	0.1158***	0.1158***
		(0.0123)	(0.0123)	(0.0113)	(0.0120)
Mother's highest diploma	*No diploma*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
	Brevet	0.0715***	0.0718***	0.0716***	0.0719***
		(0.0092)	(0.0092)	(0.0093)	(0.0093)
	CAP/BEP	0.0580***	0.0579***	0.0580***	0.0581***
		(0.0061)	(0.0061)	(0.0061)	(0.0062)
	Baccalauréat	0.1029***	0.1035***	0.1028***	0.1034***
		(0.0100)	(0.0100)	(0.0099)	(0.0099)
	Bac+2	0.1297***	0.1301***	0.1297***	0.1300***
		(0.0110)	(0.0111)	(0.0113)	(0.0113)
	Bac+3 and more	0.1461***	0.1464***	0.1455***	0.1459***
		(0.0164)	(0.0164)	(0.0142)	(0.0141)
Social origin: father's occupational status	*Blue-collar worker*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
	Farmer	0.0640***	0.0629***	0.0657***	0.0647***
		(0.0074)	(0.0075)	(0.0076)	(0.0076)
	Shopkeeper	0.0601***	0.0604***	0.0604***	0.0606***
		(0.0080)	(0.0079)	(0.0082)	(0.0082)
	Executive	0.1338***	0.1346***	0.1374***	0.1382***
		(0.0114)	(0.0113)	(0.0110)	(0.0110)
	Intermediate worker	0.0919***	0.0924***	0.0946***	0.0950***
		(0.0084)	(0.0083)	(0.0083)	(0.0082)
	Employee	0.0354***	0.0360***	0.0368***	0.0373***
		(0.0083)	(0.0083)	(0.0080)	(0.0080)
Parents' divorce		-0.0570***	-0.0566***	-0.0569***	-0.0566***
		(0.0073)	(0.0074)	(0.0074)	(0.0074)
Being a woman		0.0217***	0.0217***	0.0217***	0.0217***
		(0.0038)	(0.0037)	(0.0039)	(0.0040)
Ranking in the siblings		-0.0171***	-0.0172***	-0.0171***	-0.0172***
		(0.0013)	(0.0012)	(0.0012)	(0.0012)
Birth year dummies (*Ref=1956*)		yes***	yes***	yes***	yes***
Unemployment rate		-	-0.0031	-	-0.0031*
			(0.0022)		(0.0018)
R^2		0.27	0.27	0.27	0.27
Number of individuals		11887	11887	11887	11887

Sources: FQP survey (INSEE; 2003), Population Census (INSEE; 1962-1999). Computations with Stata.
Field: 11,887 individuals born in France over 1956-1973 and living at the end of their study in the same region. *** (** and * respectively) stands for significance of the coefficient at a 1% (5% or 10% respectively) level. Clustered standard error within parentheses.

Table 3. Impact of industrial restructuring on individual human capital accumulation (IV estimates)

Explained variable: (log of) number of years of schooling		ΔSTI_{6-20}		ΔSTI_{6-14}	
		(1)	(2)	(3)	(4)
Intercept		2.3402***	2.3428***	2.3401***	2.3438***
		(0.0122)	(0.0125)	(0.0122)	(0.0123)
Industrial restructuring indicator (restr)		**-0.0022****	**-0.0023****	**-0.0036****	**-0.0037****
		(0.0010)	**(0.0010)**	**(0.0015)**	**(0.0015)**
Industrial restructuring (ΔSTI) x **social origin**	***Blue collar worker*** x ΔSTI	***Ref.***	***Ref.***	***Ref.***	***Ref.***
	Farmer x ΔSTI	**0.0019**	**0.0019**	**0.0031**	**0.0031**
		(0.0024)	**(0.0024)**	**(0.0038)**	**(0.0038)**
	Shopkeeper x ΔSTI	**0.0041***	**0.0040***	**0.0068***	**0.0067***
		(0.0022)	**(0.0022)**	**(0.0036)**	**(0.0036)**
	Executive x ΔSTI	**0.0055****	**0.0053****	**0.0087****	**0.0085****
		(0.0027)	**(0.0027)**	**(0.0044)**	**(0.0044)**
	Intermediate worker x ΔSTI	**0.0046*****	**0.0045****	**0.0071****	**0.0070****
		(0.0018)	**(0.0018)**	**(0.0029)**	**(0.0029)**
	Employee x ΔSTI	**0.0039***	**0.0038****	**0.0068***	**0.0067***
		(0.0023)	**(0.0023)**	**(0.0036)**	**(0.0036)**
Father's highest diploma	*No diploma*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
	Brevet	0.0650***	0.0653***	0.0648***	0.0651***
		(0.0125)	(0.0125)	(0.0126)	(0.0126)
	CAP/BEP	0.0240***	0.0237***	0.0240***	0.0237***
		(0.0050)	(0.0050)	(0.0049)	(0.0050)
	Baccalauréat	0.0704***	0.0704***	0.0704***	0.0704***
		(0.0092)	(0.0093)	(0.0087)	(0.0087)
	Bac+2	0.1016***	0.1010***	0.1013***	0.1008***
		(0.0121)	(0.0121)	(0.0121)	(0.0121)
	Bac+3 and more	0.1160***	0.1159***	0.1159***	0.1159***
		(0.0122)	(0.0123)	(0.0117)	(0.0117)
Mother's highest diploma		*Ref.*	*Ref.*	*Ref.*	*Ref.*
	Brevet	0.0715***	0.0717***	0.0714***	0.0717***
		(0.0092)	(0.0092)	(0.0093)	(0.0092)
	CAP/BEP	0.0579***	0.0579***	0.0580***	0.0580***
		(0.0061)	(0.0061)	(0.0061)	(0.0061)
	Baccalauréat	0.1029***	0.1034***	0.1027***	0.1033***
		(0.0110)	(0.0101)	(0.0098)	(0.0098)
	Bac+2	0.1297***	0.1301***	0.1296***	0.1299***
		(0.0112)	(0.0110)	(0.0113)	(0.0113)
	Bac+3 and more	0.1460***	0.1464***	0.1457***	0.1460***
		(0.0163)	(0.0164)	(0.0141)	(0.0141)
Social origin: father's occupational status	*Blue-collar worker*	*Ref.*	*Ref.*	*Ref.*	*Réf.*
	Farmer	0.0649***	0.0648***	0.0646***	0.0635***
		(0.0076)	(0.0077)	(0.0079)	(0.0080)
	Shopkeeper	0.0578***	0.0581***	0.0571***	0.0574***
		(0.0081)	(0.0081)	(0.0084)	(0.0084)
	Executive	0.1339***	0.1347***	0.1335***	0.1343***
		(0.0114)	(0.0113)	(0.0115)	(0.0115)
	Intermediate worker	0.0912***	0.0916***	0.0911***	0.0915***
		(0.0085)	(0.0085)	(0.0088)	(0.0087)
	Employee	0.0374***	0.0380***	0.0361***	0.0367***
		(0.0086)	(0.0086)	(0.0084)	(0.0084)
Parents' divorce		-0.0569***	-0.0566***	-0.0570***	-0.0567***
		(0.0074)	(0.0074)	(0.0074)	(0.0074)
Gender (being a woman)		0.0218***	0.0218***	0.0218***	0.0218***
		(0.0038)	(0.0038)	(0.0040)	(0.0040)
Ranking in the siblings		-0.0172***	-0.0172***	-0.0172***	-0.0172***
		(0.0013)	(0.0013)	(0.0012)	(0.0012)
Birth years dummies (*Ref.=1956*)		yes***	yes***	yes***	yes***
Unemployment rate		-	-0.0031	-	-0.0031*
			(0.0022)		(0.0018)
Test of endogeneity[(a)]: decision (*p-value*)		no (0.5584)	no (0.4955)	no (0.4206)	no (0.3883)
Overidentification test for all instruments[(b)]		yes (0.8562)	yes (0.8107)	yes (0.7851)	yes (0.7419)
Weak instruments[(c)]: conclusion		no	no	no	no
R^2		0.27	0.27	0.27	0.27
Number of individuals		11887	11887	11887	11887

Sources: FQP survey (INSEE; 2003), Population Census (INSEE; 1962-1999). Computations with Stata.

Field: 11,887 people born in France over 1956-1973 and who live at the end of their study in the same region.

Notes: (a) Hausman test robust to heteroscedasticity. (b) Sargan test robust to heteroscedasticity. (c) Test of Stock and Yogo (2005). *** (** and * respectively) stands for the significance at a 1% (5% or 10% respectively) level. Clustered standard error within parentheses.

4.2. Discussion: quantifying the impact of industrial restructuring

We provide an interpretation of our results using simulations based on the estimated marginal effects displayed in section 4.1 using instrumental variable estimates. We consider two reference individuals, both aged 6 in 1962 (and 20 in 1976), whose fathers are blue-collar workers in France. One was born in the 'Pas de Calais' French *département* that was particularly affected by industrial restructuring. The other was born in 'Gers', a French *département* that suffered almost no industrial restructuring. Table 4 presents the values for ΔSTI_{6-20} and ΔSTI_{6-14} for these two types of individuals.

Considering ΔSTI_{6-20} (respectively ΔSTI_{6-14}), the difference between the two French *départements* for the industrial restructuring indicator amounts to 12.62 (respectively 7.2) percentage points. Using the marginal effect estimated for ΔSTI_{6-20} (Table 3), we find a difference of *(12.62×-0.23%)= -4.67%* in the duration of schooling for the individual born in 'Pas de Calais' and the individual born in 'Gers'. *Ceteris paribus*, for a theoretical duration of schooling of 14 years, we find a difference of *(14×-4.67%)= -0.41* years in schooling duration between an individual who during school aged lived in a *département* characterized by major industrial restructuring (here, Pas de Calais) and one who lived in a *département* that was not affected by restructuring (here, Gers). Hence, industrial restructuring reduced the duration of schooling by 0.41 years for the child of a blue-collar worker in a *département* characterized by extensive industrial restructuring relative to what would have been achieved if the child had been resident, during the same time period, in a *département* characterized by no industrial restructuring. Table 5 shows that, based on the econometric specification and the indicator considered, industrial restructuring would have reduced the number of years of schooling by between 0.36 and 0.41 years on average.

Table 4. Share of the working population employed in traditional industries (%, levels and variations)

Year/ *Département*	Gers	Pas de Calais (PDC)
Level of the STI[(a)]		
1956 (birth)	1.13	28.41
1962 (6 years)	1.08	26.96
1970 (14 years)	0.98	19.65
1976 (20 years)	0.97	14.23
Variations in STI[(b)]		
ΔSTI_{6-20}	(0.97-1.08)= **-0.11**	(14.23-26.96)= **-12.73**
ΔSTI_{6-14}	(0.98-1.08)= **-0.10**	(19.65-26.96)= **-7.31**
Difference in variations between the two French *départements*[(b)]		
for ΔSTI_{6-20}	(12.73-0.11)=12.62	
for ΔSTI_{6-14}	(7.31-0.11)=7.20	

Source: computations from the authors based on Population Census (INSEE; 1962-1999).
Notes: (a) percent; (b) percentage points.

Table 5. "Differential" effect of industrial restructuring on the number of years of schooling

Industrial restructuring indicator (specification)	ΔSTI_{6-20} (1)	ΔSTI_{6-20} (2)	ΔSTI_{6-14} (3)	ΔSTI_{6-14} (4)
Effect on the number of years of schooling	*0.39*	*0.41*	*0.36*	*0.37*

Sources: Tables 3, 4 and computations using Stata.

4.3. Robustness checks

Sensitivity to the industrial restructuring indicator
In addition to ΔSTI_{6-20} and ΔSTI_{6-14}, we also consider estimations using ΔSTI_{0-20}, computed for the period birth of the individual to 20th birthday. In that case, the Hausman test shows the endogeneity of the industrial restructuring variable at the 10% level, both in the case where there is no local indicator (p-value=0.0779), and in the case where the local unemployment rate is included in the econometric specification (p-value=0.0635). The marginal effects of restructuring are little less pronounced than those reported in Tables 2 and 3. In this case, industrial restructuring reduces the duration of schooling by 0.27-0.29 years.

Possible geographical mobility
Our analysis is based on a sample where individuals have not changed of region during their scholarship. Since it might bias the estimates, we have also performed econometric estimations on a larger sample, including individuals who are supposed having geographically moved. In these estimations, our results only slightly change (we obtain the following marginal impacts: -0.0021** for ΔSTI_{6-20} and -0.0033** for ΔSTI_{6-14} when controlling for local unemployment). Hence our results appear robust to definition of the sample regarding possible geographical mobility.

Different effects for social background
In line with the literature, we study the impact of the French industrial restructuring on blue-collar workers' families. In our sample, this social background represents the largest share of the individuals born between 1956 and 1973 (about 44%). It includes those individuals who experienced and suffered most from industrial restructuring. Since we are interested in the effect of restructuring also for social origins other than 'blue-collar', we use detailed interaction variables between all origins and the industrial restructuring indicator, the $\Delta STI \times PCS_j$ variables (Tables 2 and 3). The "executives' and "intermediate" origins exhibit positive (and significant) coefficients. The effect of industrial restructuring is positive but small for these origins. Since the interaction variable is not significant for the children of "farmers", the effect of industrial restructuring for these children is thus negative.

5. Conclusion

This article proposes an evaluation of the effect of deindustrialization on individual human capital accumulation in France over 1956-1993. We estimate a function of individual human capital accumulation that includes indicators for industrial restructuring as explanatory variables. Our results show a negative effect of restructuring on the individual human capital accumulation for children of blue-collar workers. Thus, industrial restructuring may have consequences other than those usually considered in the literature. The negative impact of industrial restructuring on the human capital accumulation of the next generations may explain the economic position of several groups of individuals who live in areas formerly specialized in traditional industries and that experience persistent low education and poverty. This negative impact of restructuring may partly explain regional differences in educational attainment. Public policies should focus particularly on areas formerly specialized in traditional industries and some of the concerned families.

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Appendix.

Table A1. Regional differences in human capital (1999, % of high qualified individuals in the *ZEAT*/region)

Z.E.A.T.		Region	
Région parisienne	26.03%	Ile de France	26.03%
Bassin Parisien	16.05%	Bourgogne	14.69%
		Centre	15.97%
		Champagne-Ardenne	17.55%
		Haute Normandie	15.99%
		Basse Normandie	16.33%
		Picardie	15.86%
Nord	18.49%	Nord-Pas de Calais	18.49%
Est	17.65%	Alsace	16.21%
		Franche-Comté	20.71%
		Lorraine	16.38%
Ouest	18.75%	Bretagne	19.04%
		Pays de la Loire	20.06%
		Poitou-Charentes	16.38%
Sud-Ouest	18.29%	Aquitaine	18.29%
		Limousin	19.14%
		Midi-Pyrénées	15.31%
Centre-Est	19.69%	Auvergne	20.43%
		Rhône-Alpes	16.57%
Méditerranée	17.75%	Languedoc-Roussillon	17.42%
		Provence-Alpes-Côte d'Azur	18.49%
average	19.77%	average	19.77%

Source: French Census of Population, Insee.

Note 1: the "% of high qualified individuals" indicator refers to the percentage of population that has attained a level of diploma higher than the French *baccalauréat* (*A*-level grade) in the area.

Note 2: France is composed of 8 *ZEAT*s (*zones d'étude et d'aménagement du territoire*) corresponding to a French administrative division at the NUTS 1 level. Each *ZEAT* can include several French *régions* (within parentheses): *Région Parisienne (Ile de France), Bassin Parisien (Bourgogne, Centre, Champagne-Ardenne, Basse and Haute Normandie, Picardie), Nord (Nord Pas-de-Calais), Est (Alsace, Franche-Comté, Lorraine), Ouest (Bretagne, Pays de la Loire, Poitou-Charentes), Sud-Ouest (Aquitaine, Limousin, Midi-Pyrénées), Centre-Est (Auvergne, Rhône-Alpes), and Méditerranée (Languedoc-Roussillon, Provence-Alpes-Côte d'Azur, Corse)*.

Table A2. Variables definition

Variable		Description
Number of years of schooling		Total number of years of education, corrected by the number of repeated years and breaks during schooling
Industrial restructuring indicators (ΔSTI)		Variation of the share of employment in traditional industries on a considered period, computed for each individual according to his year of birth: Indicator ΔSTI_{6-20}: between age 6 to 20 Indicator ΔSTI_{6-14}: between age 6 to 14
Social origin (father's occupational status)		
	blue-collar worker	Dummy variable = 1 if the father is blue-collar worker
	farmer	Dummy variable = 1 if the father is farmer
	shopkeeper	Dummy variable = 1 if the father is shopkeeper
	executive	Dummy variable = 1 if the father is executive
	intermediate	Dummy variable = 1 if the father is intermediate
	employee	Dummy variable = 1 if the father is employee
Father's or mother's highest diploma		
	No diploma	Dummy variable = 1 if the considered parent is has no diploma or only a certificate of primary studies.
	Brevet	Dummy variable = 1 if the highest diploma of the considered parent is the Brevet, i.e. certificate of lower secondary education completion
	CAP/BEP	Dummy variable = 1 if the highest diploma of the considered parent is *CAP* or *BEP*, i.e. certificate of vocational or technical education (one year before *Baccalauréat*)
	Baccalauréat	Dummy variable = 1 if the highest diploma of the considered parent is the *Baccalauréat* (equivalent to a A-level grade).
	Bac + 2	Dummy variable = 1 if the highest diploma of the considered parent belongs to the an equivalent level of 2-years university after *Baccalauréat*
	Bac + 3 and more	Dummy variable = 1 if the highest diploma of the considered parent belongs to the an equivalent level of 3-years university or more after *Baccalauréat*
Parent's divorce		Dummy variable = 1 if the parents of the surveyed individual have divorced during scholarship
Being a woman		Dummy variable = 1 if the surveyed individual is a woman
Ranking in the siblings		Ranking of the individual among her siblings
Birth years dummies		22 dummy variables from 1956 to 1973 (*Ref=1956*) Dummy variable = 1 for the year where the surveyed individual is born
Unemployment rate		Unemployment rate in the French *département* when the individual is 6 years old
Instrumental variables		*Two variables*: 1. The share of employment in traditional industries the year of birth of the individual 2. the share of employment in traditional industries the year of birth of the individual 10 years earlier

Table A3. Instrumental variables: first stage regressions (ΔSTI_{6-20} as a restructuring indicator)

Explained variables: endogenous variables		ΔSTI_{6-20}	***Farmer*** x ΔSTI_{6-20}	***Shopkeeper*** x ΔSTI_{6-20}	***Executive*** x ΔSTI_{6-20}	***Intermediate*** x ΔSTI_{6-20}	***Employee*** x ΔSTI_{6-20}
Intercept		0.1262 (0.2557)	0.0503* (0.0308)	0.0604** (0.0259)	0.0589** (0.0288)	0.0410 (0.0334)	0.0669** (0.0237)
Industrialization level 10 years before the birth of the individual: STI_{-10}		**0.0451** **(0.0204)**	**0.0030**** **(0.0012)**	**0.0043***** **(0.0010)**	**0.0043***** **(0.0011)**	**0.0044***** **(0.0011)**	**0.0039***** **(0.0008)**
Social origin x STI_{-10}	***Blue collar worker*** xSTI_{-10}	***Ref.***	***Ref.***	***Ref.***	***Ref.***	***Ref.***	***Ref.***
	Farmer x STI_{-10}	**0.0294** **(0.0257)**	**0.0475** **(0.0318)**	**-0.0015*** **(0.0008)**	**-0.0005** **(0.0006)**	**-0.0011** **(0.0008)**	**-0.0008** **(0.0007)**
	Shopkeeper x STI_{-10}	**0.0006** **(0.0184)**	**-0.0004** **(0.0006)**	**0.0099** **(0.0258)**	**0.0000** **(0.0006)**	**0.0002** **(0.0008)**	**0.0001** **(0.0006)**
	Executive x STI_{-10}	**0.0013** **(0.0276)**	**0.0016**** **(0.0007)**	**0.0008** **(0.0008)**	**-0.0006** **(0.0330)**	**0.0025*** **(0.0013)**	**0.0009** **(0.0007)**
	Intermediate worker x STI_{-10}	**0.0002** **(0.0188)**	**0.0001** **(0.0004)**	**-0.0004** **(0.0005)**	**0.0003** **(0.0006)**	**0.0070** **(0.0245)**	**0.0004** **(0.0004)**
	Employee x STI_{-10}	**0.0182** **(0.0187)**	**-0.0007** **(0.0006)**	**-0.0010*** **(0.0006)**	**0.0000** **(0.0006)**	**0.0010** **(0.0008)**	**0.0301** **(0.0247)**
Industrialization level at the birth of the individual: STI_0		**0.357***** **(0.0216)**	**-0.0032**** **(0.0013)**	**-0.0045***** **(0.0011)**	**-0.0047**** **(0.0012)**	**-0.0048**** **(0.0012)**	**-0.0042***** **(0.0009)**
Social origin x STI_0	***Blue collar worker*** x STI_0	***Ref.***	***Ref.***	***Ref.***	***Ref.***	***Ref.***	***Ref.***
	Farmer x STI_0	**-0.0544**** **(0.0267)**	**0.3314***** **(0.0322)**	**0.0016*** **(0.0009)**	**0.0007** **(0.0007)**	**0.0013** **(0.0009)**	**0.0009** **(0.0007)**
	Shopkeeper x STI_0	**-0.0062** **(0.0193)**	**0.0007** **(0.0007)**	**0.3890***** **(0.0272)**	**-0.0001** **(0.0006)**	**-0.0002** **(0.0008)**	**-0.0000** **(0.0006)**
	Executive x STI_0	**-0.0006** **(0.0283)**	**0.0053**** **(0.0027)**	**-0.0009** **(0.0009)**	**0.4067***** **(0.0362)**	**-0.0028*** **(0.0015)**	**-0.0011** **(0.0007)**
	Intermediate worker x STI_0	**-0.0052** **(0.0190)**	**-0.0014*** **(0.0088)**	**-0.0004** **(0.0006)**	**-0.0005** **(0.0007)**	**0.3925***** **(0.0261)**	**-0.0003** **(0.0005)**
	Employee x STI_0	**-0.0252** **(0.0203)**	**0.0011** **(0.0007)**	**0.0014**** **(0.0007)**	**-0.0000** **(0.0006)**	**-0.0007** **(0.0009)**	**0.3659***** **(0.0270)**
Father's highest diploma	*No diploma*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
	Brevet	0.0510 (0.0479)	0.0125 (0.0163)	0.0273* (0.0159)	0.0076 (0.0177)	0.0045 (0.0281)	0.0083 (0.0228)
	CAP/BEP	0.0180 (0.0215)	-0.0075 (0.0061)	0.0165* (0.0090)	0.0048 (0.0044)	0.0061 (0.0084)	0.0082 (0.0071)
	Baccalauréat	0.0298 (0.0389)	-0.0167** (0.0079)	0.0185 (0.0175)	0.0240 (0.0147)	0.0113 (0.0217)	-0.0137 (0.0161)
	Bac+2	0.0350 (0.0516)	0.0009 (0.0057)	0.0043 (0.0175)	0.0513* (0.0178)	-0.0508 (0.0386)	0.0076 (0.0100)
	Bac+3 and more	-0.0455 (0.0527)	-0.0045 (0.0055)	-0.0116 (0.0154)	-0.0150 (0.0355)	-0.0091 (0.0296)	-0.0110 (0.0176)
Mother's highest diploma	*No diploma*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
	Brevet	0.0659* (0.0388)	0.0274*** (0.0108)	0.0276** (0.0142)	0.0017 (0.0137)	-0.0265 (0.0201)	-0.0067 (0.0154)
	CAP/BEP	0.0810*** (0.0258)	0.0076 (0.0081)	0.0142 (0.0106)	0.0013 (0.0080)	0.0178 (0.0116)	0.0041 (0.0085)
	Baccalauréat	0.0182 (0.0422)	-0.0047 (0.0090)	0.0065 (0.0196)	0.0243 (0.0178)	-0.0312 (0.0208)	0.0029 (0.0155)
	Bac+2	0.0392 (0.0448)	0.0054 (0.0081)	0.0275 (0.0191)	-0.0054 (0.0220)	0.0017 (0.0268)	0.0063 (0.0139)
	Bac+3 and more	-0.0244 (0.0681)	0.0096* (0.0054)	0.0235 (0.0170)	-0.0271 (0.0500)	-0.0724** (0.0370)	0.0061 (0.0135)
Social origin: father's occupational status	*Blue-collar worker*	*Ref.*	*Ref.*	*Ref.*	*Réf.*	*Réf.*	*Réf.*
	Farmer	0.0724 (0.0461)	-0.540*** (0.0097)	0.0004 (0.0029)	-0.0052* (0.0031)	-0.0006 (0.0036)	-0.0005 (0.0026)
	Shopkeeper	0.0369 (0.0381)	-0.0039* (0.0022)	-0.5700*** (0.0726)	-0.0013 (0.0022)	0.0009 (0.0031)	-0.0017 (0.0022)
	Executive	-0.0056 (0.0489)	-0.0093** (0.0037)	-0.0064 (0.0078)	-0.6039*** (0.0963)	0.0224 (0.0165)	0.0021 (0.0080)
	Intermediate worker	0.0380 (0.0339)	-0.0038 (0.0027)	-0.0056 (0.0043)	-0.0026 (0.0051)	-0.5609*** (0.0082)	0.0011 (0.0039)
	Employee	0.0384 (0.0370)	-0.0078*** (0.0026)	-0.0081*** (0.0028)	-0.0022 (0.0024)	-0.0007 (0.0037)	-0.5459*** (0.0734)
Parents' divorce		-0.0314 (0.0323)	-0.0032 (0.0091)	0.0019 (0.0130)	-0.0007 (0.0103)	0.0072 (0.0114)	0.0000 (0.0089)
Being a woman		-0.0148 (0.0174)	0.0051 (0.0054)	-0.0051 (0.0061)	0.0012 (0.0047)	-0.0040 (0.0063)	0.0079 (0.0051)
Ranking in the siblings		-0.0034 (0.0046)	-0.0018 (0.0016)	0.0026* (0.0014)	0.0010 (0.0007)	0.0013 (0.0015)	-0.0011 (0.0014)
Birth years dummies (*Ref.=1956*)		yes***	yes***	yes***	yes***	yes***	yes***
Unemployment rate		0.1149*** (0.0269)	0.0212*** (0.0037)	0.0126*** (0.0040)	-0.0008 (0.0038)	0.0120** (0.0050)	0.0091** (0.0042)
F-test of excluded instruments: *p*-value		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Angrist-Pischke multivariate *F*-test of excluded instruments: p-value		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
R^2		0.9252	0.9153	0.9419	0.9463	0.9572	0.9491
Number of individuals		11887	11887	11887	11887	11887	11887

Sources: FQP survey (INSEE; 2003), Population Census (INSEE; 1962-1999). Computations with Stata.
Field: 11,887 people born in France over 1956-1973 and who live at the end of their study in the same region.
Notes: *** (** and * respectively) stands for the significance of the coefficient at a 1% (5% or 10% respectively) level. Clustered standard error within parentheses.