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Abstract

This paper investigates whether a relaxation-oriented educational approach can lead to either improved or worsened labor market outcomes. By examining individuals born in the same year but with varying durations of exposure to the relaxation-oriented curriculum of the 1980s in Japan, we analyze the impact of this curriculum on their performance in the labor market. Our findings reveal that individuals exposed to more years of a relaxed education tended to achieve less favorable outcomes, including lower earnings, a higher likelihood of unemployment, and reduced chances of securing full-time employment. This study also explores the potential mechanisms contributing to their suboptimal performance, highlighting lower educational attainment and relatively low probability to work as skilled workers. Importantly, our results remain robust even after controlling for other potential explanations and withstand various sensitivity tests.

Keywords: Japan; Curriculum Reform; Education policy; Scholastic ability; Labor market Performance
JEL classification: I21, I28, J24, J60

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1 Introduction

According to the human capital hypothesis, education policies are factors determining the academic performance of students and are also closely related to earnings in adulthood (Becker, 1962). Therefore, scholars seek to create the optimal policy to reach these aims. Revision of curricular standards is one of the many educational policies that are thought to be particularly essential to human capital accumulation or even a nation's future. A well-structured curriculum with more critical thinking and knowledge transmission (Canaan, 2020; Pischke, 2007; Card and Krueger, 1992) could foster students' studying habits and sound characteristics, providing qualified talents for society. In contrast, students find it challenging to have a strong learning foundation and cultivate solid abilities if the curriculum content is not established reasonably, such as a significant reduction in effective teaching time and quality or inserted unnecessary political ideologies (Lavy, 2015; Kikuchi, 2014; Voigtländer and Voth, 2015). In the literature, most studies focus on the immediate effect of curriculum revisions on academic achievement (Figlio et al., 2018; Groen and Pabilonia, 2019; Motegi and Oikawa, 2019). Our paper extends the literature and combines unique Japanese government labor data with a historical event relating to the significant change brought upon by the launch of the relaxed-oriented national curriculum in Japanese compulsory education in the 1980s. We find a less well-functioning teaching standard and a more comfortable environment could negatively impact people's success in the labor market, and students' worse educational attainment is the primary mechanism of their labor market unsuccess.

To meet the increasing demand for higher education and to boost post-war Japan's economic growth, the content of primary and secondary education continued to increase since the 1960s. Remarkably, the fifth version of the national curriculum standard, established in 1971, was designed to be exam-orientated, effectively motivating students to spend a lot of time studying. Although parents expected their children to succeed

academically, they were also concerned that too much stress would harm their physical and mental health. Especially there were some extreme incidents in Japanese schools, such as student suicides and bullying, which led parents and society to believe that high academic pressure was the direct cause of these incidents. Education experts also agreed that exam-orientated education was too stressful and urged the Ministry of Education, Culture, Sports, Science and Technology (MEXT) to change the current situation (Yamanaka and Suzuki, 2020).[1] The media's propaganda throughout the entire population during that period also highlighted the adverse effects of exam-focused schooling. From the current perspective, the distribution and degree of difficulty of the knowledge points in the fifth version were not reductant, and the number of class hours was not as much as what the general public imagined, and exam-oriented education may not necessarily be the leading cause of these incidents. However, due to the pressure at that time, the MEXT had to consider this issue.

In December 1976, the MEXT issued a report proposal about "reducing educational content, aiming to enable students to live a comfortable and fulfilling school life" and implemented a new curriculum quickly since 1980, which we call *the 80s revision or 80s curriculum*.[2] The guidance focused on developing children's independent thinking ability and fostering a "relaxed" environment during the teaching session. Overall, there are three key changes: the first was a more accommodative educational approach that emphasized developing students' abilities over academic performance. The second was a reduction in course content and class hours. Some major subjects—including physics, society, Japanese, and mathematics—had a more than 10% reduction significantly in their typical teaching time. Third, students received more time for self-study and extracurricular teaching activities.

[1]Before the Ministry of Education, Culture, Sports, Science and Technology (MEXT) was established in 2001, the Ministry of Education conducted centralized education policies, including curriculum changes. We use the MEXT for both new and old ministries.

[2]The MEXT implemented the revision in 1980 for elementary schools and 1981 for junior high schools.

Even though the original intention of enhancing students' self-learning ability was good, it may actually have a detrimental impact on students. The disadvantages are also divided into three aspects. First, the academic standards within schools have seen a noticeable decline due to shifts in teaching methods and educational philosophies. The changes aimed at fostering students' overall abilities have inadvertently made students, particularly those with weaker self-discipline, less diligent in their studies, thereby diminishing their enthusiasm for learning compared to earlier standards. Such a transformation may have far-reaching consequences for students' educational experiences as a whole (Fan, 2016; Yang, 2018). Second, the curriculum has undergone major changes, reducing class time and focusing heavily on topics relevant to admission exams like math, sciences, and language. The MEXT cut around 13% of teaching time in junior high school and 7% in elementary school subjects, altering the curriculum significantly. They've also removed both fundamental and relatively complicated knowledge from elementary and junior high school curricula, which may lead to insufficient knowledge consolidation, weakening students' educational foundations and impacting future learning. Importantly, the difficulty of university entrance exams had not declined largely, so inadequate knowledge accumulation could hinder students' academic performance.[3] Third, independent learning time may not be good for students in the period of compulsory education, especially primary school students, whose self-control ability is relatively poor. They need better self-control to get adequate knowledge when they do not receive enough practical guidance from teachers. The yutori curriculum could potentially hinder students from achieving academic success, resulting in lower educational attainment and limited development of essential learning and problem-solving skills. This, in turn, may impede their ability to effectively com-

[3]Nishimura (2003) discusses from an economic perspective the results of the "generational" educational system reforms that have been promoted since 1980. He focuses on the fact that the number of class hours for math, arithmetic, and science has decreased as a result of the revision of the "relaxed" curriculum guidelines, and points out that the percentage of correct answers to math and arithmetic questions among university students has declined as a result, arguing that "relaxed" education has led to a decline in academic ability.

plete work tasks and could have a detrimental impact on their overall performance in the labor market.

Based on the background above, we started to study labor market outcomes such as annual earnings, non-employment, and the probability of being full-time employed. Using several waves of administrative data from the Employment Status Survey (Ministry of Internal Affairs and Communications), one of the most thorough law-designated statistics surveys in Japan, we examine the sharp decline in the intensity of curriculum in the spring semester of 1980 and exploit three representative labor outcomes variables. The paper also uses an educational law that children who turn six on or before April 1 of a particular year must enroll in elementary school by April 1 of that same year; children born after April 1 can only enroll in school in April of the following year. Based on this rule, we designate people born between January 1 and March 31 as the control group and those born after April 1 to the end of December as the treatment group. Following Fuchs-Schündeln and Masella (2016) as well as Bai and Li (2020), we use a method that compares people born in the same year, and the treatment group had one extra year of exposure to the relaxed education than the control group. To account for non-time-varying confounding factors at the various levels, we add region-fixed effects, birth cohort-fixed effects, and wave-fixed effects.

We first show the effects on job market performance. One additional academic year of exposure to *the 80s curriculum* lowers the income, increases the likelihood of being non-employed, and reduces the probability of full-time employment. The reasons behind this include the reduction in total years of schooling and the likelihood of earning college degrees caused by the new teaching standard. Moreover, people in the treatment group who are non-employed are more likely to avoid looking for jobs. We further exclude the potential impact of the birth month gap on outcomes, i.e., although having been born in the same year, the samples from January and December may differ in several ways, affecting the labor market performance. We address this issue by controlling the gap of a birth month to the birth date cutoff or shortening the birth range of the samples to three

months in both the control and the treatment groups. The significant difference in labor outcomes between the two groups of samples persists after such changes. We also use the Regression Discontinuity Design (RDD) method and find that the discontinuity at the cutoff of April indeed exists. Besides this, we performed a placebo test using a sample of adults born between 1960 and 1968 (pre-cohorts) who were totally exposed to the old teaching standards, which were not characterized by any within-cohort differences in their teaching content. The coefficients are statistically insignificant, showing that neither birth month gap, nor any other confounding factors related to the treatment substantially impacted the outcomes. Furthermore, we conducted another placebo test by setting the cutoff for the treatment and control groups in months other than April. The insignificant coefficients for all other cutoffs highlight the significance of adopting April as a cutoff.

The paper also examines the heterogeneities of the effect on genders. First, the paper analyzes gender and finds that the response is relatively more potent for males because Japan's labor market has a particular employment culture in which males can be more active in market participation. In contrast, some females choose to take care of the housework and leave the labor market after marriage. Then, we focus on the different years of exposure to new curricula. We divided the sample based on each respondent's grade when the curriculum changed. The sample in the treated group could perform worse on the job market than the control group if they spend a longer time on the new curriculum, according to our analysis of the impacts of varied lengths of exposure to treatment. In robustness checks, we rule out some potential threats, such as the impact of private schools on outcomes, the speed of curriculum implementation, and the possible threats of yutori education in high schools on results, and we argue that they do not confound our results.

This study adds to the body of literature looking at how curriculum changes affect people's performance in the job market. The prior research generally focused on the effects of the reduction in teaching time or material on student educational performance,

particularly on the effect on short-term exam scores (Bellei, 2009; Barrios-Fernández, et al., 2021; Battistin and Meroni, 2016; Fitzpatrick et al., 2011; Lavy, 2015 ; Meyer and Van Klaveren, 2013; Rivkin and Schiman, 2015; Wößmann, 2003). Our paper highlights respondents' performance in the job market using high-quality administrative data, which is rarely seen in prior studies due to data constraints. The paper examined the long-term impact of relaxed education, featuring significant teaching time and content reduction, providing new evidence for the adverse effects of Japan's educational reforms that began in the 1980s, and it explains how relaxed-oriented education has a detrimental influence that extends beyond academic achievement and even affects people's employment prospects.

Our research also contributes to educational policy implications, mainly by providing suggestions for balancing the burden on students and guaranteeing academic achievement. Some scholars hold the idea that exam-focused education is harmful to students' development and mental health. In contrast, others deem relax-oriented education detrimental to students' academic and career achievement. Our paper demonstrates that if the intensity of the knowledge points were cut rapidly or if the environment was too relaxed for students who struggle with self-control, it can result in students having a shaky foundation and fewer opportunities to form positive character traits. It is necessary to balance the different viewpoints on this issue. To cultivate students' abilities and prevent the decline of their academic ability and other adverse effects as much as possible, the MEXT should reasonably reduce burdensome or unnecessary knowledge points and combine teachers' properly guiding students' independent learning methods.

The paper is organized as follows. Section 2 briefly overviews Japan's institutional context and educational system. A discussion of the data and the used variables may be found in Section 3. Section 4 presents the empirical analysis and findings. Section 5 serves as the paper's summary.

2 The Japanese educational system and the 1980s curriculum reform

2.1 The Japanese educational system: background

A nine-year compulsory schooling period, made up of a six-year elementary (primary) education and a three-year junior high (lower secondary) school period, has been kicked in Japan since 1947. Students can pursue upper-level secondary education at a three-year senior high school or a five-year technical college after completing the compulsory education. Generally, a Japanese school year starts in April and ends in next year March, and students are automatically advanced to the next grade every year because grade retention and skipping are discouraged (Motegi and Oikawa, 2019).[4] Besides, Japan's educational system contains public and private schools: due to the high tuition fees and the limited enrollment quotas in private schools, most students attend public schools.[5] Students have to pass an entrance exam to be enrolled in post-compulsory schools.[6] In Japan, success in entrance exams is the key factor in determining admission to a school and is crucial to the educational system at all levels, while achievement in prior institutions is not emphasized too much.[7]

2.2 The Japanese educational system: curriculum standards

The MEXT has established the curriculum standards mandated by the Education Law and supplementary commentary as teaching guidelines, which specify the materials

[4]For example, in the case of repeating a grade, unless the student's academic performance is extremely deficient, such as the grades in all subjects are far below the average, and he cannot understand the content of the teacher's lecture. In such a case, the school would let the student consider repeating the grade.

[5]According to the School Basic Survey (MEXT), less than 1.0% of students attended private junior high schools that required entrance exams between 1952 and 1990.

[6]And it also applies to private and some public junior high schools admission: students need to successfully pass an entrance exam, such as an interview and a paper-based test.

[7]Normally, the municipality design offers an admission exam for local high schools.

taught and the duration of instruction for numerous topics, which is the fundamental teaching principle to be followed by elementary and middle schools.

2.3 1980s curriculum reform

After World War II, Japan underwent a period of rapid economic growth and modernization, known as the "post-war economic miracle." To sustain this growth, the country needed to develop a highly skilled workforce that could support its industries and drive technological innovation. Education was seen as essential to achieving this goal, as it provided individuals with the knowledge and skills needed for advanced technical and managerial positions. Thus, the government invested heavily in expanding Japan's primary and secondary education system, which included building new schools, hiring more teachers, and increasing the curriculum content. As the benefits of education became more apparent in post-war Japan, with higher levels of education being associated with higher-paying jobs and more significant opportunities for social and economic mobility, parents began to place a higher value on education for their children.

To ensure objectivity and fairness in the selection process, admission exams in Japan frequently emphasize the scores of entrance exams, such as college entrance exams, senior high school admissions, and even the junior high school exams of some private schools. Consequently, to get accepted at prestigious high schools and elite universities, applicants had to receive excellent scores in these exams. Under such a context, cramming learning became a popular teaching method in schools to help students perform different levels of entrance exams. A large number of parents who hoped their children would be enrolled in elite schools accelerated the competition for prestigious institutions. Even elementary school pupils were preoccupied with getting good scores, and competitiveness among classmates began when they were young. Although parents expected their children's academic success, they were also concerned that too much

stress would harm their physical and mental health. Educational experts thought the current system was too stressful and proposed reforms: Children were tired enough but were sent to cram schools. The hitherto exclusive "neurasthenia" for adults has entered the world of students. Especially there were some extreme incidents in Japanese schools, such as student suicides and bullying, that happened in the 1970s, which led parents and society to believe that high academic pressure was the direct cause of these incidents.[8] Exam-oriented education was criticized in Japan at the time on a social level through media reports; after extensive debate and consideration, the MEXT released a study in response titled "Improving the Educational Curriculum Standards for Primary and Secondary Schools" in 1977, which demonstrated the end of the transition from exam-oriented education. The guidance was modified to focus on the development of independent thinking ability and the position of considering children in the curriculum setting was also respected by decreasing the teaching content and fostering a "relaxed" environment during the teaching session. The MEXT implemented a new curriculum quickly in 1980 for elementary schools and in 1981 for junior high schools. From the current perspective, an old version of the curriculum might not be redundant. The distribution and level of difficulty of the knowledge points on the prior curriculum were appropriate, and the number of class hours was not as high as the general public believed. And exam-oriented education was not necessarily the main cause of these incidents. Still, due to the pressure at that time, the MEXT had to consider this issue.[9]

Overall, there are three changes: First, relaxed education cultivates students' ability as the primary purpose and downplays the requirements for grades. The second is the reduction of course content and class hours.[10] The third is that students had more time

[8]One incident was "the Aichi junior high school girls suicide incident" in 1977, where two students committed suicide after being unable to cope with the intense academic pressure and expectations their schools and parents placed on them. The incident sparked a national debate on the issue of academic stress and the need for schools to prioritize their students' mental health and well-being.

[9]Considering the errors made since 1978, the MEXT dropped the mode of relaxed education and increased the knowledge content and course time in 2008.

[10]The reduction in teaching time for various major courses by around 10%. The total number of class hours for junior high schools is reduced from 3535 to 3150 hours, while those for the six years of

than in the past for individual learning and participating in extracurricular teaching activities.[11]

Initially, as a result of a shift in training methods and teaching philosophies toward fostering students' overall abilities, the academic standards within schools have become noticeably less stringent than they used to be, which has the potential to lead certain students with weaker self-discipline to become more lax in their studies, subsequently dampening their enthusiasm for learning compared to previous times. This alteration could have a longer impact on or beyond the entirety of students' educational period. Moreover, the revised curriculum has significantly reduced the amount of instructional time and subject matter, primarily focusing on subjects relevant to entrance examinations, such as mathematics, natural sciences, social sciences, and Japanese. Within this framework, the MEXT has eliminated approximately 13% of the content in junior high school subjects and 7% in primary schools. The alteration in curriculum content has also changed to some degree. The MEXT has excised, repositioned, and eliminated certain elements from both elementary and junior high school curricula, mostly consisting of fundamental knowledge. Notably, the level of difficulty in university entrance examinations has not undergone significant reduction; therefore, inadequate knowledge accumulation could hamper students' prospects of successfully passing these examinations. Third, the additional teaching time created by the reduced content is utilized for the student's independent study. However, those in elementary and junior high schools were in the stage of developing their learning habits and skills. Most of them need better self-control to get adequate knowledge, so autonomous learning mode was challenging. When a specific awareness, such as being lazy or even shirking, emerges in junior high school children, it likely sticks with them for a long time and affects their future test scores and work performance.

The original intention of developing students' abilities was right. However, the focus

primary school are reduced from 5821 to 5785 hours (Kikuchi, 2014).

[11]The school organized extracurricular teaching activities through classes or student unions, such as leading students to participate in some group activities to learn about nature or local history.

of teaching has shifted rapidly from exam-focused instruction to consolidate knowledge to a joyful and laid-back education style, which caused negative effects in two aspects. Firstly, the significant reduction in teaching time and content results in insufficiently consolidated knowledge reservoirs for students, diminishing their learning abilities and affecting their subsequent educational pursuits. Such an impact may also cause them to face significant challenges in the labor market.[12] We explain this in detail in the mechanism section of the baseline results. Secondly, we deem that students who grow up in such a comfortable environment could lack moderate competition and attitudes. As per media reports, there is a prevailing perception that individuals from this generation exhibit a constrained sense of competitiveness and diminished feelings of accomplishment.[13][14] Unfortunately, due to data constraints, employing causal inference methods to definitively establish a causal relationship between yutori education and lower competitive attitude or work motivation in these samples is tough. Additionally, it's worth noting that the available data constrain our manuscript and focus solely on non-employed samples. However, we did identify that individuals with a background in yutori education tend to exhibit a reduced inclination to seek new employment opportunities.

3 Data and Methodology

3.1 Dataset and variables

3.1.1 Data

The dataset we employed is the Employment Status Survey, which seeks to gather essential information about the conditions of the employment structure at both the

[12]Some employers may hold negative stereotypes about people with relatively lower educational attainment and assume they are less capable or motivated than other candidates.

[13]JAIC: https://www.jaic-college.jp/useful/u-10445/.

[14]MOTIVATION-CLOUD: https://www.motivation-cloud.com/hr2048/c356.

national and regional levels. The Employment Status Survey is one of the largest in Japan and one of the Law Designated Statistics surveys started in 1956. Between 1956 and 1982, the Employment Status Survey was carried out every three years. Since 1982, it has been done every five years. In the sampled household units, a survey was administered to all home members who were 15 years of age or older, including students and non-workers. It includes name, sex, marital status, relationship to the head of the household, birth information, educational attainment, employment status, earnings, employment history, migration history, and other labor and demographic information. We chose the data from four waves of surveys conducted in 2002, 2007, 2012, and 2017 because the 1997 and earlier polls do not provide the sample's precise birth month.

3.1.2 Variables

From four waves of the dataset, we take the variables linked to labor market outcomes that were most commonly employed in literature: annual income, employed or not, and full- or part-time employment. Now we also count the self-employment samples as having full-time jobs and earnings, and the outcome is unaffected when the self-employment samples are removed from the robustness test.

Income: We use the information for respondents' annual income before taxes to construct wages (in units of 10,000 yen). Approximately 12% of the samples within the dataset do not contain income information, and in our baseline analysis, we treat these particular samples as missing values.

Non-employed: Employment is equal to 1 if the self-reported employment status is given as employed. In most circumstances, especially for men in Japan, employment is a significant predictor of labor market performance. Please note that this is the case of non-employment, not unemployed.

Fulltime: We set it to one if the respondent's most recent job was full-time and to zero otherwise. Full-time work here is conditional on being employed. Like in other countries, full-time employment in Japan is associated with much greater wages and job stability than part-time employment, which serves as an essential labor market indicator.

Explanatory variable ($Treated_i$): The cutoff date of birth for school enrollment is used to build the explanatory variable of interest, which causes a variation in the length of exposure to the 1980s curriculum revisions within the population, based on the method developed by Fuchs-Schündeln and Masella (2016) as well as Bai and Li (2020) employ data from the same birth cohort. Children in Japan who turned six on or before April 1 of a given year were required by law to start first grade. Children born on or after April are considered the treated group, while those born before April are defined as the control group. As a result of the 1980 curriculum revision, respondents in the treatment group received one extra year of school with less instructional content than respondents in the control group, resulting in a disparity between respondents in the two groups. We compare groups that were impacted differently by the reduction in education by contrasting people born early and late in the same year.

3.2 Estimation Strategy

$$Y_{i,b,r,w} = \alpha_0 + \beta Treated_i + \gamma X_i + \mu_b + \delta_r + \phi_w + \epsilon_{i,b,r,w}$$

we use the following regression model to evaluate the effect of the treatment, where $Y_{i,b,r,w}$ is the outcome of individual i from birth cohort b in the region r took the survey in a year w, including annual income expressed in logarithmic form, employment status, annual working hours, and full- or part-time employment. A dummy variable called

$Treated_i$ has a value of one if the respondent was born on or after April and zero otherwise. Following the 1980 curriculum reform, respondents in the treatment learned an additional year of school with less educational content than respondents in the control group. And X_i stands for both gender and age.[15] And μ_b is birth year fixed effects to control that cohort-specific characteristics are widespread across different birth cohorts; for instance, the cohort born later met a burst of an economic bubble resulting in relatively worse placement, while those born earlier may have favorable job market conditions compared to the later cohort. For this reason, we need to use the birth year-fixed effects. Additionally, region-fixed effects δ_r take into account region (at municipality level) differences, including geographical or cultural variations, that are constant over time and are shared by all cohorts residing in different regions, such as lower income and fewer full-time jobs in less developed compared to Tokyo. ϕ_w stands for wave fixed effects, which take into account changes in national standards over the survey years. In some specific survey years, some particular events will affect the entire labor market. For example, the occasional shocks may affect the market in those years, while other survey years have little impact. Therefore, we use wave-fixed effects to control. And $\epsilon_{i,b,r,w}$ is an error term. We cluster them at the level of the birth cohort interacting with a before-after April dummy.[16]

In Panel A of Appendix Table A1, after identifying the treatment and control groups, are summary statistics that outline the sociodemographic characteristics of the survey respondents. The main characteristics of respondents in the control and treated groups are displayed in columns 2 and 3. The ages of the two groups significantly differ; since the samples in the treatment group were born a few months earlier than the control group, the age difference might not be a problem. And when fixed effects are included, the age differences disappear. Panel B of Appendix Table A1 displays the statistics for outcome variables, whereas Panel C shows the details of the variables for

[15] The datasets have limited pre-treat variables, so we only control for gender and age in the baseline.

[16] When robust standard errors are clustered at the birth cohort level and at the regional level, the results persist.

the mechanism. The considerable differences between the treated and control groups' scores on the variables in Panels B and C should be emphasized. The differences in the outcome variables continue to be significant even when the location, birth cohort, and wave-fixed effects are taken into account, as can be seen in columns (6) and (7).

4 Empirical Results

4.1 Baseline results

We first focus on the direct impact of yutori curriculum on educational variables. Table 1 shows the primary specification's results after including the control variables above. The estimation result shown in column (2) with controls indicates that being a member of the treatment group reduces one's Income by about 213,000 yen per year, which is about 6.2% over its mean (21/338=6.2%). In addition, one more academic year of instruction under *the 80s revision* raises the likelihood of by 2.4 percentage points (or 14.3% more than its mean) to be non-employed and reduces the probability of full-time employment by 2.9 percentage points (or 5.9% more than its mean), indicating that being exposed to teaching content reduction does affect the labor market performance.

4.2 The Birth month impact

Although the baseline results are consistent with what we preserved, we also should know that the sample's observations of birth months are spread out from January to December: the birth month gap between them might be large. Hence, people may augre in terms of their innate traits and overall exposure to *the 80s revision*; those born at the beginning of the year differ from those born at the end of the year: Samples born in January tend to be slightly older than those born later in the year. Within the same cohort of school entrants, this age difference may result in slightly better comprehension abilities and physical development, potentially influencing their academic performance

and other later outcomes. As a result, we use four ways to rule it out: first, we choose shorter birth months for the samples that are more comparable and close to the cutoff; the treatment group chose people born in April to June, whereas the control group chose people born in January to March, and columns (1)–(3) of Table 2 still had no significant change.[17]

We further take into account the birth month's proximity to the school enrollment cutoff date to address this concern. For example, if an individual was born in January, there is a three-month gap to the cutoff date. Therefore, we have introduced a new variable known as the "birth month gap," representing the number of months between the birth month and the cutoff (April). Even when accounting for linear or quadratic relationships involving the birth month gap in columns (4)–(6) of Table 2, we have observed that the confounding factor does not seem to influence our conclusion.

The third way is to use the Regression Discontinuity Design (RDD). However, we are unable to employ a typical RDD due to the absence of precise birthdate information for the participants, which is essential to protect their personal privacy. As an alternative, we utilize the month of birth and introduce different degrees of polynomials of the birth month, re-centered on April, along with their interactions with the Treat variable as control variables in our analysis. Since the gap in receiving new teaching standard education between treated and control groups is one year, we choose April each year as the cutoff to do an RDD to address this issue. Then we combine eight cohorts because the enrollment times for the samples born in each year differ by one year. When comparing people born in March and April, there is a difference in birth months of fewer than 60 days, making them practically comparable for these observations. Appendix Figure A.1 shows that the discontinuity at the cutoff indeed exists. The size of jumps is close to the estimates in the baseline model, indicating that the long-term adverse effect of new standard education on labor outcomes persists. As quartic

[17]Since Non-employed and Fulltime are dummy variables, we use the probit model in the Table A3, and the results are basically similar to using the OLS.

terms primarily define the RDD image, the results in Table 3 encompass quartic terms alongside the linear outcomes, and the results became larger but are consistent with the story.[18]

The following approach involves using a sample of adults born between 1960 and 1968 (pre-cohorts) as the control group to mitigate the influence of the birth month gap. Before 1980, when they were exposed to the old teaching standards (more teaching hours), they were not characterized by any within-cohort differences in the intensity of their teaching content or hours. These pre-cohorts were also affected by the differences in the birth month gap mentioned above. If the birth month gap strongly influences the samples in baseline, then this confounding factor also applies to the pre-cohorts who attended school before. We repeat our baseline specification using these pre-cohorts as our sample for the placebo test. According to the results shown in columns (7)–(9) of Table 2, none of the coefficients for the variable April cutoff are statistically significant, indicating that neither the enrollment age nor any other confounders related to the treatment had a significant impact on the outcomes associated with the labor market.

4.3 Trends in labor variables over time

We examined the evolving trends in labor variables over time. As depicted in Appendix Figure A.2, the income gap between the two groups consistently widens across various waves, indicating that yutori education exerts a lasting influence on both sample groups. This trend could be attributed to divergent levels of educational attainment and individual abilities developed during schooling, which may have contributed to the increasing disparity. And differences in job roles and responsibilities performed by the two groups may have played a significant role in shaping their varying compensation levels. For a more detailed exploration of these aspects, please refer to the sections on Heterogeneity and Mechanisms. It's worth noting that a similar pattern is observed

[18]The results remain similar even when quadratic and cubic terms are employed.

in the case of non-employed and full-time employment, although the effect is less pronounced than in the income differential.

4.4 Heterogeneous effects

4.4.1 Heterogeneous effects: genders

We also take into account gender differences between men and women who were exposed to new curricula after 1980. Table 4 demonstrates that men are more negatively impacted in the labor market than women, though the new curriculum hit people equally across genders in educational attainment.[19] The labor market in Japan has a particular employment culture in which males are more active, while women prioritize their family and domestic duties over their careers after marriage. Hence, females have lower levels of engagement in the Japanese labor market than men, and we find the influence of an additional year of yutori education is relatively more modest for women. Although efforts are underway in Japan to address it and encourage greater participation of women in the labor force, including policies aimed at expanding childcare options and promoting more flexible work arrangements, some females are still inactive in the labor market after they get married.

4.4.2 Heterogeneous effects: Different length of exposure

Then, the paper studies the impact variability dependent on the entire length of their exposure to the new standard. We analyze this variation in treatment effects by separating the sample according to each respondent's grade when the curriculum changed. The sample could be worse in the labor market in the future if they spend more time learning the new curriculum. We show the exposure of yutori education in different years in the figure. This result is consistent with our depiction in Table 5,

[19]Please see the mechanism section, which demonstrates that the influence of yutori education on educational achievements is essentially equivalent for both males and females.

where we include the dummy variables indicating the total length of exposure to the new education curriculum, ranging from 1 to 9 years in our specification. While income differences may not be immediately apparent, it becomes evident that for non-employed individuals and full-time workers, those who experienced fewer new curriculums during their school years, particularly those in junior high school, were less adversely affected by yutori education. In these cases, the negative impact of yutori education was significantly limited for samples in the treated and control groups. Conversely, the treated group with more extended exposure to yutori education, exceeding six years, tended to exhibit comparatively weaker performance in the labor market than the control group.

4.4.3 Heterogeneous effects: Specific Occupational Classification

Continuing our investigation into the influence of yutori education on respondents' career choices, we encounter limitations in our data information. Since the data does not provide explicit information on which occupations are definitively high-paying and highly esteemed. We only identified a variable that provides classification information regarding skills and technology for various jobs.[20] As a result, we have categorized the respondents' occupations into two primary groups. The first category encompasses professions requiring more specialized knowledge and skills, such as specialists, administrative roles, and clerical positions. The second category primarily includes roles in the service and manufacturing industries, such as sales, service, security, transportation, production/construction, and so on. Consequently, we introduce a new variable, *Skilled*, which refers to occupations of a relatively high skill level which assigns a value of 1 if an individual is employed in the first category of work and 0 otherwise. Examining the table, we can observe that yutori education reduces the likelihood of individuals

[20]This variable has ten occupation options: 1. Specialists; 2. Administrative Staff; 3. Clerical Staff; 4. Sales; 5. Service; 6. Security; 7. Agricultural; 8. Transportation or Communication; 9. Production and Construction; 10. Handling, Cleaning, and Packaging. We categorize individuals who select options 1 to 3 as engaged in relatively high-skill level occupations, while those who opt for the remaining categories are considered to be in relatively lower-skill level occupations.

engaging in such high-skill-level occupations.

4.5 Placebo tests

We have previously employed pre-cohorts to address the birth month gap issue, and these pre-cohort samples received no yutori education, essentially as a placebo test. In this context, we are conducting another placebo test by selecting different months as the cutoff. The exercise aims to determine whether using months other than April as the cutoff leads to a significantly significant coefficient. If it is the case, some factors other than yutori education may be responsible for the variation observed in treatment group outcomes.

4.5.1 Other cutoffs besides April

In this part, the cutoff for the treatment and control groups is set in months other than April. For instance, we establish a cutoff date of March 1 and give the people born between January and February a value of 0 as the control group, and the rest are 1. Figure 1 demonstrates that such changes did not happen for individuals born in any other month other than April for those born in the same year. The non-significant coefficients for all other cutoffs highlight the importance of using April as a cutoff.

4.6 Robustness check

4.6.1 Effect of speed of curriculum's implementation on outcomes

The 1980 curriculum was initially implemented in elementary schools before shifting to junior secondary schools a year later, as was previously stated in the background section. The fact that the new junior high school curriculum was being delivered later than elementary school may have caught the attention of many parents of junior high school kids. While parents eagerly anticipated the introduction of the new education

curriculum, it is conceivable that following its implementation in elementary schools, some may have realized that this educational model was not as effective as the previous curriculum in facilitating student learning. In this sense, junior high school student's parents might have enough time to adjust to it: either select a private middle school that almost retains the old teaching content or increase the number of private remedial tutorial courses. The changes for middle school cohorts could be less sharp and may bias results.

Because the relaxed education was carried out rapidly in primary schools and essentially did not give individuals enough time to adjust to the 1980 curriculum shift, and students were studying in elementary schools should not easily transfer to private elementary schools, considering the difficulty of admission, the quota of students, the high tuition fees, and the different content they have studied. So, we limit the sample to primary schools. The results in columns (1)–(3) of Table 6 remain significant even after taking the issue mentioned above into consideration.

4.6.2 To exclude the impact of private schools on outcomes

We should take into account a phenomenon in Japanese education: public and private schools. Generally speaking, the MEXT sets up a common teaching standard and requires all schools to implement it, including private schools. Unlike public schools, private schools enjoy a significant deal of autonomy as long as they meet the MEXT's basic minimum teaching standards. Because of this, private schools did not reduce instruction time after introducing the new curriculum in 1980 and instead stuck mainly with the old curriculum. As a result, such a phenomenon results in certain unintended biases to the findings of this paper. Some public-school students' parents may decide to let their kids go to private schools because they may believe cutting teaching content essentially will harm students' learning ability and educational attainment. Most private schools in Japan are concentrated in the Tokyo and Kansai regions (we refer to it as more private school areas), with few private schools located in other areas, thus

having minimal impact on students studying in these regions.

Our sample composition would become extremely erratic if most parents sent their kids to private schools in more private school areas, which could further affect the results. However, even though our data lack information on the sort of schools attended, we do not need to be concerned about how the private school curriculum would affect the findings. Two reasons are the meager enrolment rate and an excessively high tuition charge. From 1950 to 1990, the enrollment of students in private elementary schools in Japan accounted for less than 4% of the total, while that in private middle schools was less than 1%, as shown in Appendix Figure A3. The overwhelming majority of students continued to opt for public schools during this period. Consequently, the influence of private schools on our study is minimal.

However, people also want to see if we could mitigate this potential influence empirically, such as showing the results for samples from non-private school areas vary greatly from our baseline. We have also made efforts, but it is tough for two reasons: the first is the unavailability of data such as the residential addresses of our sample during their compulsory education years; we have had to rely on the current address information for those who live in non-private school areas. Second, this way caused a sample selection issue; individuals with high abilities in non-private school areas may have migrated to more economically developed regions. Consequently, the regression samples presented in the table may represent individuals with average abilities or, even worse, could result in overestimating the side effects of yutori education. Anyway, it shows the results do not change largely to baseline in columns (4)–(6) of Table 6.[21]

[21] We have excluded the nine regions with the highest number of primary and secondary schools along with cram schools: Tokyo, Osaka, Nagoya, Kanagawa, Chiba, Kyoto, Hokkaido, Fukuoka, Saitama prefectures.

4.6.3 Other checks

Additionally, a few elements merit mentioning because they could affect the paper's outcomes. Here, we make a brief analysis, such as the case of the potential impact of senior high school curriculum, self-employment sample, and other checks.

In 1982, the MEXT launched a new high school curriculum, but there were fewer relaxed education components because it involved the pressure of college entrance examinations. In addition, compulsory schooling does not contain senior high school education, so some samples will choose to stop going to school and go to work. If there are many people in our representative who have not studied in high school, we need to consider the influence of the high school curriculum carefully, although the impact of this part is minimal. We chose the people who got senior high school diplomas and should have been fully exposed to the new high school programs, with no additional variation between them towards high school variations.

In the baseline regression, we categorize self-employed people as having full-time jobs, following Fuchs-Schündeln and Masella (2016). Then, we remove these respondents and only keep non-self-employed samples to assess whether the results are valid. The coefficients of three primary labor variables are still significant, as shown in columns (4)–(6) of Appendix Table A.2, including representatives from self-employed people had little impact on our findings.

In our baseline analysis, we excluded samples with missing income values. However, imputing their income as zero leads to an increase in the income gap between the two groups, as illustrated in column (9) of Appendix Table A2. Furthermore, since "non-employed" and "full-time" are represented as binary variables, we also employed the probit model. As demonstrated in columns (7)–(8) of Appendix Table A2, the results reveal only marginal differences from the baseline.

4.7 The potential mechanism

The potential reasons for people in treatment groups' failure in the labor market mainly are relatively lower educational attainment. Another possible factor could be lower motivation towards work. First, students with lower academic qualifications may find themselves facing a restricted range of job opportunities. Academic attainments, such as degrees and certifications, can demonstrate a certain level of knowledge and dedication; individuals with high academic achievement may indeed excel in learning and problem-solving; success in completing work tasks often depends on a combination of factors, including practical skills, experience, work ethic, and the ability to adapt to specific job requirements. So it could also reflect their labor market performance. Additionally, some employers may harbor negative stereotypes or biases toward individuals with lower academic credentials. These stereotypes can unfairly influence hiring decisions and potentially limit the professional growth and career prospects of these individuals. Columns (1) and (4) of Appendix Table A3 first show that adding one more year of instruction using *the 80s revision* reduces the likelihood of earning a college degree by 1.9 percentage points; it also shortens education by about 0.68 year. Individuals in the treatment group exhibited lower college completion rates and total years of schooling than individuals in the control group. Furthermore, the adverse effects of yutori education on both men and women are largely comparable, which aligns with common intuition.

Undoubtedly, lower educational attainment accounts for a large reason for the low labor market performance. Besides, we deem that students who grow up in a comfortable environment might exhibit a more laid-back approach to their studies and professional responsibilities, potentially lacking strong motivation to exert considerable effort. While we admit that we presently lack concrete data to validate this perspective, a potential deficiency in motivation could have cascading effects. We have only uncovered a single piece of information on this topic: an inquiry for non-employed sam-

ples about their willingness to look for work. Non-employment has a significant impact on the personal economic situation. Concentrating on samples that have experienced similar lengths of non-employment and post-employment circumstances, column (7) of Appendix Table A3 shows that people who have studied the new curriculum for one more year are less willing to look for an occupation, while the samples in the control group have a high willingness to go to work again.[22] It could be that relaxed education does not train the willpower and resilience of the samples enough, causing students to lack confidence or shrink back when facing difficulties.

5 Conclusion

This paper clarifies the long-term effects of curricular modifications on the labor market. We investigate the data resulting from the sharp decline in fundamental material in the Japanese educational system and discover it had a long-lasting impact on those who are now middle-aged using the Employment Status Survey dataset. According to our findings, a further academic year of teaching has resulted in a reduction in educational content and a reduction in yearly salary, as well as an increase in the chances of being non-employed and a decrease in the likelihood of obtaining a full-time position. Additionally, we find that the coefficients of pure April cutoff effects are negligible and non-significant when using placebo cohorts as our sample, indicating that enrollment age effects or other sociological factors are unlikely to be the primary causes of our findings. We also use robustness checks to rule out other potential factors, suggesting that the derived estimates can adequately capture the degree to which the impact of *the 80s revision*.

Besides the negative aspects of relaxed education, we should realize that yutori

[22] Japan's non-employment and life protection systems could guarantee that unemployed people can maintain a minimal standard of living for at least one year, so we choose people with similar non-employment lengths to cope with the demand variation for new jobs at different times of non-employment.

education will also have a positive impact on students: At first, yutori education's primary goals were to reduce students' stress and protect their general well-being. It was thought that children's mental health would benefit from growing up in a less stressful environment. Additionally, yutori education provided students ample time for independent study. When motivated to grow knowledge and broaden their intellectual horizons, students were encouraged to seek out varied information individually. For those students possessing high self-discipline, this approach could significantly enhance their cognitive abilities. Nevertheless, the actual impact of implementing "relaxed education" in achieving these intended objectives remains challenging to ascertain. The results are difficult to verify conclusively, thus necessitating further exploration in future research. So, in this paper, we can only concentrate on the detrimental effects.

Moreover, the MEXT revised the curriculums twice between 2002 and 2010, with the 2002 revision implementing a whole "school 5-day schedule" and shortening some of the teaching time, causing students to receive even less teaching time in schools and could have a more significant adverse impact on them. The whole society captured this situation for an extended period and showed strong displeasure with the "poor academic competence" of elementary and middle school students and required the shift from relaxed education to non-relaxed education. The MEXT and other educational institutions implemented corrective measures and published a new curriculum in 2008 to revise earlier mistakes they made, lengthened class periods for the first time since 1980, reinstated the majority of the material that had been previously erased, and decreased the amount of time allotted for self-study, which signaled the introduction of non-relaxed education. The impact of these educational reforms merits further investigation, particularly the effect of the 2008 curriculum revision. Still, the data at this stage include very few affected samples, which needs to be improved to support our research in this area, and we may have to wait until the data matures in future analysis.

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Table 1: The baseline result

Dep. Var.	The overall sample					
	Income		Non-employed		Fulltime	
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	-24.951 ***	-21.083 ***	0.024***	0.024 ***	-0.021 ***	-0.029 ***
	(2.086)	(2.217)	(0.006)	(0.006)	(0.003)	(0.002)
Obs.	317865	317865	385968	385968	321206	321206
Controls	N	Y	N	Y	N	Y
Fixed effects	Y	Y	Y	Y	Y	Y

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2: To rule out birth month impact

Dep. Var.	Shorter months			Controling birth month gap			Placebo test		
	Income	Non-employed	Fulltime	Income	Non-employed	Fulltime	Income	Non-employed	Fulltime
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3 Treated	-26.483 ***	0.039 ***	-0.027 ***	-22.733***	0.027***	-0.023***	0.322	-0.002	0.003
	(3.060)	(0.002)	(0.004)	(2.056)	(0.005)	(0.003)	(1.325)	(0.002)	(0.002)
Obs.	167722	204474	169341	317865	385968	321206	368907	446553	372288
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Birth month trend	N	N	N	Y	Y	Y	N	N	N
Fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Different specification of RDD method

Dep. Var.	The overall sample					
	Income		Non-employed		Fulltime	
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	-31.165 ***	-31.002***	0.041***	0.033***	-0.033 ***	-0.045 ***
	(3.371)	(7.092)	(0.003)	(0.009)	(0.005)	(0.013)
Obs.	317865	317865	385968	385968	321206	321206
Controls	Y	Y	Y	Y	Y	Y
Fixed effects	Y	Y	Y	Y	Y	Y
Running variable	Linear	The 4th	Linear	The 4th	Linear	The 4th

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Heterogeneous effects: genders and occupations

Dep. Var.	The overall sample						Occupations
	Income		Non-employed		Fulltime		High-skilled dummy
	Male	Female	Male	Female	Male	Female	Skilled
Treated	-27.668 ***	-12.336 ***	0.055***	0.001	-0.027 ***	-0.013 ***	-0.015***
	(3.169)	(1.155)	(0.003)	(0.009)	(0.003)	(0.003)	(0.004)
Obs.	171099	146766	183040	202928	173221	147985	135391
Controls	Y	Y	Y	Y	Y	Y	Y
Fixed effects	Y	Y	Y	Y	Y	Y	Y

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Heterogenous analysis by the years with new curriculum

Dep. Var.	Years of exposure to new curriculum		Results		
	Months: 1-3	Months: 4-12	Income	Non-employed	Fulltime
	(1)	(2)	(3)	(4)	(5)
Treated: Birthyear 1966	0	1	-12.711	0.001	-0.005
			(7.712)	(0.023)	(0.012)
Treated: Birthyear 1967	1	2	-24.966***	0.001	-0.017**
			(7.015)	(0.022)	(0.008)
Treated: Birthyear 1968	2	4	-18.793***	0.003	-0.013**
			(5.164)	(0.025)	(0.005)
Treated: Birthyear 1969	4	5	-28.462***	0.018***	-0.022***
			(6.667)	(0.004)	(0.007)
Treated: Birthyear 1970	5	6	-20.320**	0.017***	-0.021***
			(6.695)	(0.003)	(0.008)
Treated: Birthyear 1971	6	7	-21.038***	0.035***	-0.022**
			(5.703)	(0.005)	(0.078)
Treated: Birthyear 1972	7	8	-16.722***	0.074***	-0.033***
			(4.664)	(0.007)	(0.005)
Treated: Birthyear 1973	8	9	-19.709***	0.075***	-0.035***
			(5.668)	(0.008)	(0.009)
Controls	Y	Y	Y	Y	Y
Fixed effects	Y	Y	Y	Y	Y

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

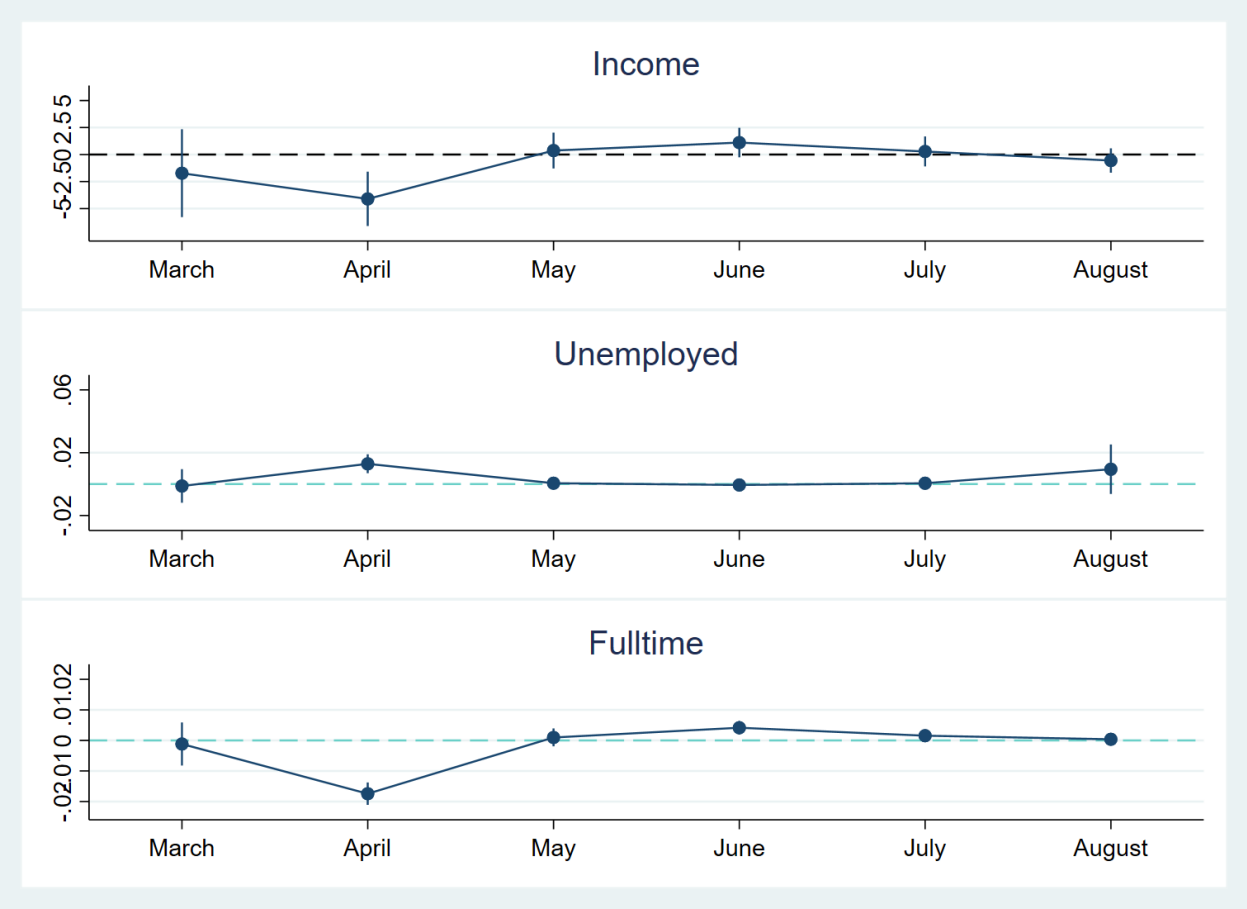
Table 6: Robustness checks

	Sample from the primary school group			Samples from less private school areas		
Dep. Var.						
	Income	Non-employed	Fulltime	Income	Non-employed	Fulltime
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	-21.379 ***	0.032 ***	-0.043***	-21.045***	0.024 ***	-0.020 ***
	(2.306)	(0.006)	(0.004)	(2.123)	(0.006)	(0.003)
Obs.	240003	296594	296916	244540	293095	246783
Controls	Y	Y	Y	Y	Y	Y
Fixed effects	Y	Y	Y	Y	Y	Y

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 1: Placebo test: other cutoffs besides April



Appendix A. Figures and Tables

Table A.1: Summary Statistics

	(1) All	(2) Control Jan.-Mar.	(3) Treated Apr.-Dec.	(4) Unconditional Diff.	(5) Unconditional p-value	(6) Conditional Diff.	(7) Conditional p-value
			Panel A				
Age	39.033	38.850	39.108	-0.257	0.000	-0.023	0.329
	(4.282)	(4.602)	(4.140)				
Male	0.475	0.485	0.470	0.014	0.000	0.016	0.000
	(0.499)	(0.499)	(0.499)				
Treated	0.705	0	1	1	-	-	-
	(0.456)						
#obs.	386380	113125	273255				
			Panel B				
Income	338.790	355.181	331.841	-23.330	0.000	-29.869	0.000
	(246.395)	(248.956)	(244.967)				
Non-employed (0-1)	0.168	0.153	0.173	0.020	0.000	0.028	0.000
	(0.373)	(0.360)	(0.378)				
Fulltime (0-1)	0.498	0.527	0.486	-0.035	0.000	-0.044	0.000
	(0.499)	(0.499)	(0.499)				
			Panel C				
Bachelor Degree (0-1)	0.189	0.198	0.185	-0.013	0.000	-0.019	0.000
	(0.391)	(0.399)	(0.388)				
Years of Education	13.123	13.568	12.939	-0.629	0.000	-0.668	0.000
	(1.998)	(2.135)	(1.895)				

Table A.2: Other results

	Samples with high school diplomas			Samples without self-employed			Probit model		Other checks
Dep. Var.	Income	Non-employed	Fulltime	Income	Non-employed	Fulltime	Non-employed	Fulltime	Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treated	-20.756 ***	0.027 ***	-0.021 ***	-20.862 ***	0.026 ***	-0.020 ***	0.034 ***	-0.022***	-28.920 ***
	(2.255)	(0.006)	(0.002)	(2.230)	(0.006)	(0.003)	(0.005)	(0.002)	(2.261)
[1em] Obs.	299370	360248	302528	307001	375021	310259	385887	321208	386380
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.3: Mechanism

	Bachelor Degree			Years of Education			Willing to look for a job		
Dep. Var.	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treated	-0.019 ***	-0.016***	-0.018***	-0.678 ***	-0.775 ***	-0.593 ***	-0.013 **	-0.135 ***	-0.004
	(0.002)	(0.003)	(0.002)	(0.011)	(0.015)	(0.012)	(0.005)	(0.020)	(0.006)
Obs.	386380	183260	203120	382220	181332	200888	47021	6535	40324
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y

[1] The baseline individual controls include gender and age. The fixed effects include birth year-fixed effects, region-fixed effects, and wave-fixed effects.

[2] Robust standard errors clustered at the birth-year-treatment level are reported in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure A.1: Using regression discontinuity design (RDD) method

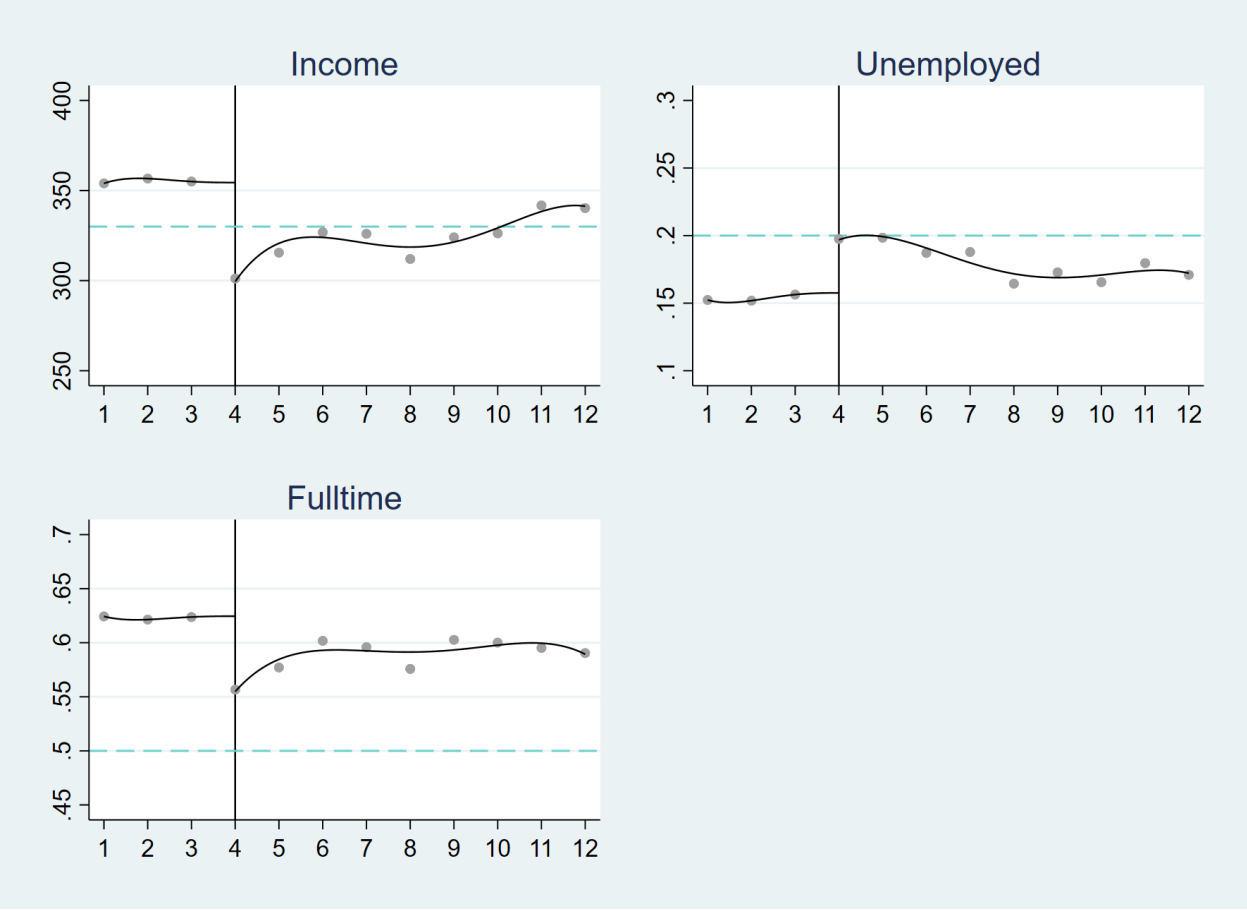


Figure A.2: Labor outcome variables over time

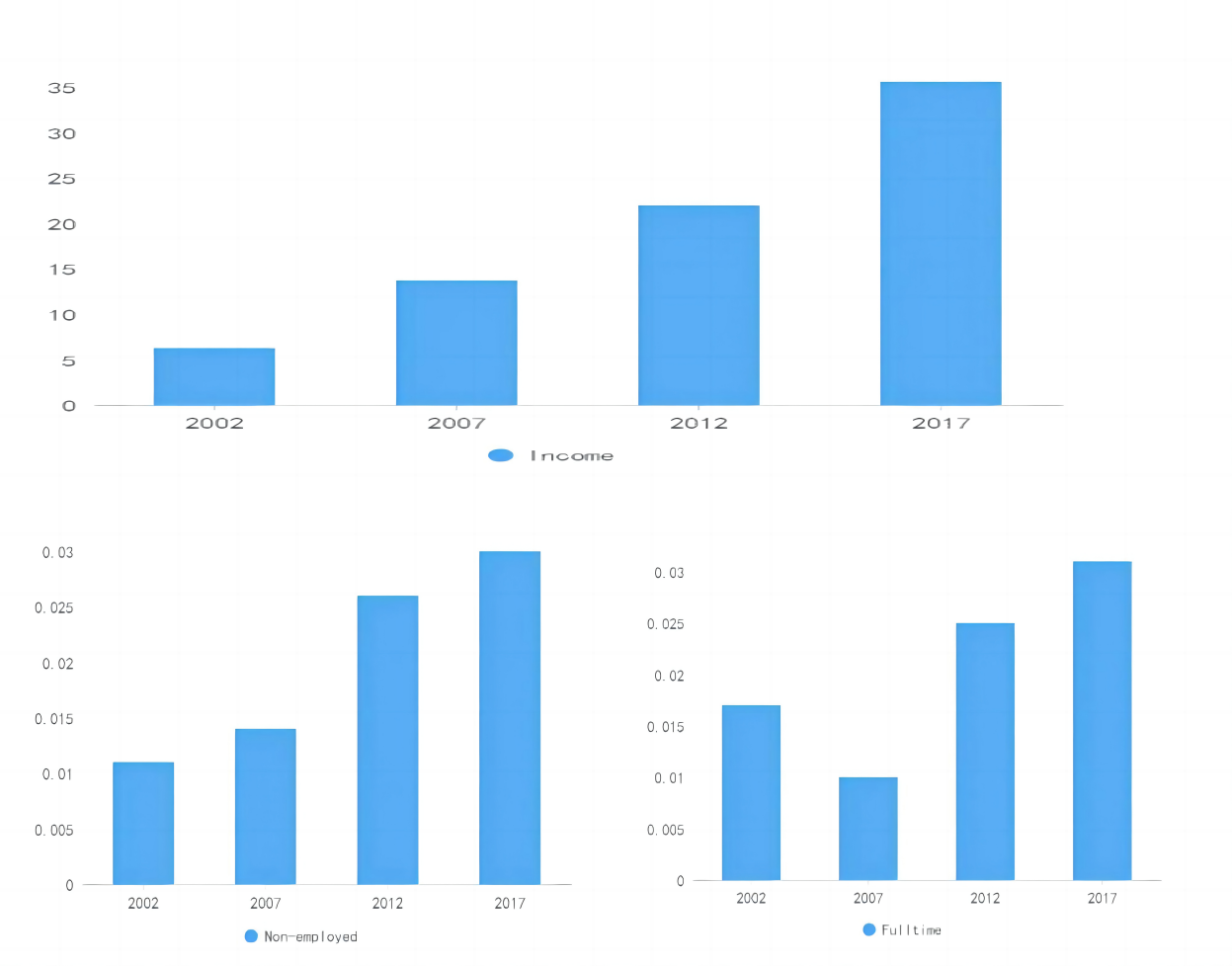


Figure A.3: Percentage of private school students from 1950 to 1990