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Abstract

This report presents a comparative data on educational reforms in 25 European countries in 1950–1990. The dataset includes cross–national information about three types of educational reforms; changes in school leaving age, removal of educational dead ends and existence of tuition fees in tertiary education. Data is collected from various sources, such as datasets, reports, national documents and research articles. By providing comparative quality data for macro level events, this dataset contributes to the lack of available measures of educational reforms for social, political and economic research. Open access to adequate measurements for educational policy changes over time in multiple countries enables the application of different research designs and the use of advanced methods of analyses where concrete measurements for educational policies can be included.

Keywords: education, educational reform, comparative, dataset, Europe

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Introduction

Education has obtained a large amount of attention in various areas of social, political and economic research. It is one of the major institutions in Western societies that influences both institutional settings, such as the labour market, and individual behaviour and outcomes, i.e., occupation, family behaviour and well-being. However, educational attainment, and individual outcomes more broadly, are largely affected by socioeconomic background (Breen & Jonsson, 2005; Bukodi & Goldthorpe, 2013; Jaeger & Holm, 2007; Lucas, 2001; Raftery & Hout, 1993). For this reason, educational systems can influence the inequalities in societies by providing educational and social mobility opportunities.

Previous research has attempted to address the mechanisms of educational systems and policies in affecting macro-level events, such as economic growth, but also individual-level events, such as social mobility and stratification. For this, a quality data on the changes in national educational systems is strongly needed. Therefore, this report provides detailed and cross–nationally comparable data about educational reforms in Europe – data that are required for studying macro-level events, and their relationships with individual outcomes.

Education provides skills, knowledge and sometimes also the networks with which individuals can build their opportunity structures for the later stages in their transitions to adulthood and to the labour market. Educational attainment is heavily reliant on socioeconomic background, and on the volume of parental investments (e.g. time, money or knowledge) on their children's education varies between families, and between national contexts (Becker, 1962; Breen & Jonsson, 2005). Consequently, in social mobility and stratification research, education has been one of the most studied national institutions. Education has been found to affect intergenerational transfers by providing equal access to skills and knowledge, diminishing the importance of parental resources and equalising educational and occupational opportunities and outcomes (Brunello & Checci, 2007; Hout, 1998; Müller & Karle, 1993; Pfeffer, 2008). However, occupational and financial inequalities (among other forms of inequalities) have some persistent features, making the role of educational reforms in constructing the equality of opportunity or equality of outcomes even more interesting.

Each educational level has been found to have diverse effects on the opportunities and outcomes of individuals. Universal, quality basic education has been found to be linked to greater equality of opportunity in later educational transitions and thus in occupational outcomes. Attaining a secondary level education has become almost universal in many Western societies, which exerts more pressure on youth to obtain good grades and to pursue further education (Barro & Lee, 2013). Tertiary education degree is found, in several Western societies, to provide greater income level, better health and higher occupational status, sometimes even despite family background (Hout, 2012). Regardless of the distinct effects of each educational level, changes at the lower levels often reflect changes at higher levels. Therefore, further research on how educational systems and reforms have affected (and possibly will affect) the individual opportunities and outcomes, as well as the state of the economy, is required.

Linking macro-level events to individual-level relations has become increasingly interesting when studying the roles of the welfare state and the policy changes in these states in the sphere of inequalities (Beller & Hout, 2006; Bernardi & Ballarino, 2016; Birkelund, 2006). Because education is found to influence the opportunities of individuals and equality of outcomes in society, politicians, advocates and other decision–making agents have become eager to learn about the impacts of different educational systems and policies on the educational, occupational and stratification outcomes of individuals and more broadly the influence on the economy and society as a whole. Country-specific research can provide information about the outcomes of certain education policies, in a certain context, which in turn can be used in the educational decision-making processes of other countries (Hudson & Lowe, 2009). However, with cross–nationally comparable data on educational reforms, research can provide more accurate information about the influence of institutions and policies on individuals, families and societies.

This report presents the comparative data on educational reforms in 25 European countries, which was collected for Pöyliö, Erola & Kilpi-Jakonen (2017) and Pöyliö & Kallio (2016). These two research articles studied 1941–1980 birth cohorts, which resulted the dataset to cover educational changes in 1950–1990. The dataset provides cross-national information about three types of educational reforms covering compulsory, secondary and tertiary education: school leaving age; removal of

educational dead ends; and tuition fees in tertiary education. We aim to contribute to easier public access to data and thus to increase the use of adequate and quality measurements for macro-level events in empirical analyses. This dataset has been collected from various sources, such as written reports, national documents and research articles. This multitude of information has been put into a compressed form, which provides opportunities for further use of the data without the problematic and time-consuming process of searching for and converting the information from one form to another.

Changing educational systems in Europe

Education is one of the oldest state-provided services in the Western world. In Europe, the educational systems have been evolving for centuries and the modern educational systems go back for more than one hundred years. Despite the different development of the national educational systems, educational expansion is found to be a global phenomenon. The educational enrolment and attainment rates in tertiary education have increased remarkably, and not only in Western societies but also in the developing world as well, during the last century (see e.g., Schofer and Meyer 2005). Educational expansion, and its impact on occupational outcomes and inequality, is one of the largely studied educational topics in social and economic sciences: it has provided opportunities for upward educational, occupational and income mobility, diminishing the intergenerational inequalities within the societies (Ballarino et al., 2009; Bol, 2015; Breen, 2010; Pfeffer & Hertel, 2015).

While educational expansion is often evidenced by massive positive changes in enrolment rates in higher education, educational systems at the lower levels have also needed to expand. There have been some general lines of development in the educational systems, especially in the European countries, over the past half century. First, compulsory education has undergone both qualitative and quantitative changes. The length of compulsory schooling has been expanded in almost all modern societies because providing comprehensive basic knowledge for everyone was not sufficient, and more people required great basic skills, knowledge and abilities to pursue secondary, and for some even tertiary, education (Garrouste, 2010; Gathmann, Jürges & Reinhold, 2015).

Second, many of the secondary education systems in Europe have undergone a process of uniting two separate routes, vocational and general secondary education, into one educational system. This unification of the secondary school system has enabled the continuation of education and has increased the educational attainment of the wider population. Further, it has delayed the age for deciding between vocational and academic pathways for higher education (Pekkarinen, Uusitalo & Kerr, 2009). These changes, along with some others in primary and secondary education, have resulted in the age for deciding on one's educational pathway, and future career aspirations, has been postponed to a later age. School tracking has been strongly linked with educational opportunities and inequality of outcomes (Brunello & Checci, 2007), making these reforms vital to stratification research.

The increased years of compulsory education, growth in both eligibility and access to secondary education, and postponement of educational decisions have all contributed to the expansion of secondary education and have also inspired changes in tertiary education. There was a need to reform the higher education systems from elite schools to mass educational institutions not only by increasing the quantity and volume of institutions but also by introducing varied educational paths (professional versus academic) (Garrouste, 2010). With the simultaneous reforms of changing the entrance exam systems and weakening the admission rules at the tertiary level (Garrouste, 2010; Maas & Ganzeboom, 2007), these changes have enabled the enrolment rates in tertiary education to explode to all-time highs globally.

Existing data

Even though educational systems are old and strong institutions, and a vital part of modern societies, historical information about the educational systems is widely limited. There is a lack of systematic records of policy changes, and in cases in which governments or other national institutions have recorded information about the educational system, this information rarely covers more than the last few decades. Country-specific information about educational systems is often available in written form, in government documents or historical overviews of education, making access to this information more complicated and the use of it in research very time-consuming. Further, the historical literature that describe the country-specific educational changes is

problematic to use in comparative research without extensive standardisation and unification of measures.

To understand and learn from the different educational systems and the positive outcomes that they provide, increasing interest has lain in cross-country comparisons. Many international organisations (IO), such as the International Labour Organisation, the Organisation for Economic Co-operation and Development (OECD), the United Nations and the European Union, have collected macro-level information on the policies and institutions in Western societies. The large IOs provide high-quality macro-level data on various political and societal issues, such as education. Some of the data on educational institutions is publicly available online, but it often covers only the past few decades, starting from the 1970s–1980s. If the data span further, the institutional information becomes scarcer and the number of countries more limited. As a result, the current research has been able to focus mainly on recent decades when studying institutions with concrete measures, and the pre- and post-war decades are left for historical, often more qualitative, research in the social sciences.

There are some existing datasets that provide information about specific changes in educational institutions in Europe, although the number of these datasets is very small, and the data often in written form. For example, Garrouste (2010) and Fort (2006) have collected large historical datasets of reforms in primary and secondary schooling, covering 14–16 countries. Additionally, some individual comparative studies (Brunello, Fort & Weber, 2009; Gathmann, Jürges, & Reinhold, 2015) have used measures for educational reforms in their analyses, focusing mainly on reforms in compulsory education. All of these are great information sources, but they require a great amount of time and work to be transformed into quantitative and comparative form for research use. Therefore, having easily accessible cross-national data on educational reforms enables the application of different research designs and the use of further methods of analysis where the macro-level context and events are no longer speculative or absent from the analytical frame.

Description of the dataset

The idea for the dataset arose from the interest in including concrete measures of institutional changes when examining the influence of educational institutions on social mobility. Originally, the data were collected for research articles (Pöyliö, Erola & Kilpi–Jakonen, 2017; Pöyliö & Kallio 2016), which have largely defined the context and boundaries of the dataset. First, the initial aim was to collect information about the reforms that affect socioeconomic inheritance, positively or negatively. To obtain a broader perspective, we decided to study if changes at different levels of education had had a distinctive influence on intergenerational inequalities. Second, the articles examine over-time changes: whether the changes in educational systems played a role in the changes in social mobility. Therefore, as many decades as possible were included in the dataset, but restricted to the period after the Second World War because the institutions were not stable and possibly not even operating during the war. Additionally, data on educational reforms before 1950 were rarely available.

Three types of reforms were selected; changes in school leaving age; elimination of dead ends; and fees in higher education (see Table 1 for a summary of the variables). All three represent rather broad changes at each educational level. Information for the reforms has been collected from various sources, such as written reports, national documents, research articles, etc. Altogether approximately 99 articles were collected using search engines and databases, such as The Population Europe Resource Finder and Archive (PERFAR), EBSCO, JSTOR, Taylor & Francis Online, Wiley Online Library, Web of Science and Google Scholar. Unfortunately, the sources had to be limited to English documents, which caused difficulties, and especially restricted the use of the national documents, and documents from the earliest decades.

Instead of using the implementation year of the reform for the dataset, we coded the reforms to the first cohort it had affected. Some of the reforms were implemented gradually over a long time period, or they were implemented at different times for boys and girls or for different regions, which required deciding on the implementation year and thus the first cohort affected. The original article (Pöyliö, Erola & Kilpi–Jakonen, 2017) used the educational attainment dataset from Barro & Lee (2013), in which the year of observation was provided in 5–year groups. Therefore, the cohorts used in this dataset are also grouped into 5–year birth cohorts, ranging between 1941 and 1980.

In cases in which no source provided information about the first birth cohort that the reform affected, we calculated it by using the school leaving age before the implementation of the reform:

Implementation year of the reform − (school leaving age before the reform − 1) = first cohort affected.

For example, if a country introduced tuition fees for tertiary education in 1965, and the school leaving age for that year was 14, the calculation was as follows: 1965 − (14 − 1) = 1952. Thus, the first cohort the reform affected was 1952, and this reform was coded for the 1951–1955 birth cohort in the dataset. Because we use the national school leaving age in the calculation, in relation to the dead end and fees variables it can result in coding the reform for cohorts that are somewhat younger than the actual cohorts. For example, the implementation of fees in tertiary education might affect 18–year–old secondary education students more than 14–year–olds. In spite of countries having different lengths of compulsory education, the decision-making of pursuing higher education often occurs soon after finishing compulsory education. Therefore, we considered this formula to be the most efficient and adequate way for obtaining a comparative measurement that also acknowledges the national educational system. In cases in which this calculation was used, the calculation formula is demonstrated relative to each reform in the country-specific information.

Countries that are included in this dataset were fully determined by the research article by Pöyliö, Erola & Kilpi–Jakonen (2017). In this article, the country sample was determined so that all of the countries that were part of the European Social Survey at least three of the first five waves were included in the research. All together 25 European countries were included in the research, and in this dataset: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, West Germany, Great Britain, Greece, Hungary, Ireland, Israel, the Netherlands, Norway, Poland, Portugal, Russia, Sweden, Slovakia, Slovenia, Spain, Switzerland and Ukraine.

School leaving age

School leaving age is measured as the age of finishing basic education. If the information of the age leaving compulsory schooling was not available, it is calculated

with the age of starting school and the length of compulsory education. For example, if children start basic education at the age of 6 and the length of the schooling is 9 years, the school leaving age is 15 (6 + 9). This variable demonstrates the age at which children and families make decisions about further educational pathways (such as decisions about a vocational or general educational path).

Elimination of educational dead ends

An educational dead end means that an individual has chosen a specific path for his or her further education, and the educational track cannot be changed at a later stage. Many educational systems contain these dead ends, that prevent the pursuit of higher education if certain educational decisions are made earlier. This variable combines the reforms that have eliminated such dead ends at the secondary or tertiary level. For example, changing or postponing the timing of the final educational decision, postponing of the decisive choice of the field of study, altering the selective entrance exams or the unification of educational tracks were considered reforms of the elimination of dead ends. The aim was to find reforms that enabled or eased access to tertiary education. For this reason, we did not include reforms that have rendered access to tertiary education more restricted or limited for all or specific groups of students. For example, entrance exams introduced for tertiary education to control for the massive increase in eligible students pursuing higher education, have not been included here.

This variable was given three possible values: zero reforms, one reform and two (or more) reforms. The measure is not coded for each cohort separately but acts as a cumulative measure, and because the highest value is “two or more”, the variable considers only the first two reforms (starting in the 1950s) that affected the birth cohorts.

Tuition fees

This variable measures whether tuition fees have been instituted in tertiary education for the cohort making decisions on further education. Low registration fees or health service fees are not included in this measurement since it aims to measure whether there were general financial restrictions on pursuing higher education. The variable does not

consider the limitations or specific applications of fees, e.g., whether the fees do not apply to certain people, such as full-time students studying for their first degrees, or whether there are some income-level barriers for particular fees. Additionally, the variable does not consider the existence of grants or other financial support for students to pay their educational fees. Because the amount of fees varied greatly between countries, and sometimes they did not apply to all students, the variable is measured dichotomously – whether there were fees in place or not, at least for the majority of students.

Table 1. Summary of the varibales of the dataset

Variable	Values	Description
School leaving age	9–18	The minimum age at which children can finish compulsory education
Dead end reforms	0/1/2	Reforms that eliminate educational dead ends at the secondary or tertiary level
Tuition fees	0/1	Whether tuition fees apply at the tertiary level, at least for the majority of students

Country-specific details

This chapter provides more detailed information about the three educational reforms for each country separately. We demonstrate the types of reforms that the countries have implemented, and to which birth cohort they have first affected. To find information more easily, each reform is introduced by its year of implementation. If there are any country-specific coding or calculation related to the variable, due to the complexity of the information about the implementation date or other miscellaneous information, these details are provided. The country-specific data is also available in quantitative form in the Appendix (Tables A1–A3).

School leaving age

Austria

1938: In 1938, compulsory schooling in Austria lasted for 8 years (ages 6–14) (Murtin & Viarengo, 2011). The first cohort affected was born before 1941.

1962: The 1962 School Education Act increased compulsory education from 8 to 9 years (ages 6–15) (Garrouste, 2010, pp. 15–16; Murtin & Viarengo, 2011). According to Brunello et al. (2009), the first cohort affected was born in 1947 or 1948, and according to Gathmann et al. (2015, 75), the first cohort affected was born in 1952 or 1953. We chose 1946–1950 to be the first birth cohort the reform affected.

Belgium

1914: In 1914, The compulsory school age was from ages 6 to 14 (Garrouste, 2010, pp. 16–18, 135–159). Thus, the first cohort affected was born before 1941.

1983: The Act of 29 June 1983 extended compulsory education from 8 to 12 years (ages 6–18). Full-time education ended at the age of 15/16, after which scholars could participate either in part–time training or in training defined by a royal decree until the age of 18 (Garrouste, 2010, p. 18; Murtin & Viarengo, 2011; Wielemans, 1991). According to Brunello et al. (2009), the first cohort affected was born after 1969. According to our calculations, the first cohort affected was born between 1966 and 1970. Although the reform first affected those born in 1970, we chose the latter cohort (1971–1975) since a larger proportion of this cohort was affected compared to the previous cohort (1966–1970).

Bulgaria

1921: In 1921, the Public Enlightenment Act introduced basic education, in which school started at the age of 7 and ended at the age of 14 (Eurybase, 2005, p. 67). The first cohort affected was born before 1941.

1960: The Closer Link Between School and Life Act extended basic education to 8 years (ages 7–15) (Eurybase, 2005, p. 67). The first cohort affected was born between 1946–1950 (1960 − 13 = 1946).

1969: In 1969, the duration of basic education was reduced by one year (ages 7–14) (Eurybase, 2005, p. 67). According to our calculations, the first cohort affected was born between 1951–1955 (1969 − 14 = 1955). We chose the latter cohort (1956–1960) since a larger proportion of this cohort was affected.

Czech Republic (Czechoslovakia)

1953: The Act on the Basic Arrangement of the Unified Education System in 1948 extended compulsory education to 9 years (ages 6–15) (Garrouste, 2010, p. 50). Thus the first cohort affected was born before 1941. In 1953 (the Law on Education System and Teacher Training), compulsory education was shortened to 8 years (ages 6–14). The first cohort affected was born before 1941 (Eurybase, 2007, p. 14).

1960: In 1960 (the Act on the Education and Training System [School Act]), 9-year compulsory schooling was restored (ages 6–15) (Eurybase, 2007, p. 14). The first cohort affected was born between 1946 and 1950 [1960 − 13 = 1947].

1979: In 1979, compulsory education was shortened to 8 years (ages 6–14) (Eurybase, 2007, p. 14; Garrouste, 2010, p. 51). The first cohort affected was born between 1961 and 1965 [1979 − 14 = 1965].

1990: In 1990, the compulsory education age was increased to 9 years (ages 6–15) (Eurybase, 2007, p. 14; Garrouste, 2010, p. 51). The first cohort affected was born between 1976 and 1980 [1990 − 13 = 1977].

Denmark

1958: In 1958, compulsory education was extended from 4 to 7 years (ages 7–14) (Garrouste, 2010, p. 181). The first cohort affected was born between 1951 and 1955 [1958 − 10 = 1948].

1971: In 1971, the length of compulsory school was increased from 7 to 9 years (ages 7–16) (Brunello et al., 2009; Garrouste, 2010, p. 181; Murtin & Viarengo, 2011). According to Brunello et al. (2009), the first cohort affected was born in 1957, thus the reform affected the cohort born between 1956 and 1960 in our dataset.

Estonia

1940: In 1940, the school leaving age was extended to the age of 15 (Kera et al, 1996; Põldma & Puur 2014). The first cohort affected was born before 1941.

1958: In 1958, transition to an 8–year compulsory education began, with which school started at the age 7 and ended at the age of 16 or when the lower secondary education was completed. Transition was completed in 1980 (Kera et al., 1996; Põldma & Puur, 2014; Saar, 2008). The first cohort affected was born between 1941 and 1945 (ages 7–15) (1958 − 14 = 1944).

1992: In 1992, compulsory education started at the age of 7 and lasted for 9 years, thus until the age of 16 (Eurybase, 2009a, p. 70). The first cohort affected was born between 1976 and 1980 (1992 − 14 = 1978).

Finland

1921: The Compulsory School Attendance Act in 1921 established compulsory education starting at the age of 7 and lasting until the age of 13 (Garrouste, 2010, p. 189). The first cohort affected was born before 1941.

1972–1977: In the 1970s, the comprehensive school was established, and the school age was from 7 to 16 (Garrouste, 2010, pp. 20–21,54–55,188–198; Kieffer, 2008; Kilpi, 2008; Murtin & Viarengo, 2011). According to Brunello et al. (2009), the first cohort affected was born in 1961, thus the reform affected the cohort born between 1960 and 1965 in our dataset.

France

1939: In 1939, education was compulsory for children 6–14 years old (Garrouste, 2010, p. 201). The first cohort affected was born before 1941.

1967: The 1959 Berthoin reform extended compulsory education to an ending age of 16 years old. The reform was implemented in 1967, and according to Brunello et al. (2009), the first cohort potentially affected was born in 1953 (Brunello et al., 2009; Garrouste, 2010, pp. 21–22,55–56,199–200; Murtin & Viarengo, 2011). Thus, the reform affected the cohort born between 1950 and 1955 in our dataset.

Germany

1949–1969: In West Germany, reforms that extended the school leaving age from 14 to 15 were introduced between 1949 and 1969 depending on the state (Land). Most states

implemented the reform in 1967; thus, the earliest first cohort potentially affected was 1951–1955 (Brunello et al., 2009, p. 26; Fort, 2006; Pischke & von Wachter, 2005).

Great Britain

1947: The Education Act of 1944 ("the Butler Act") prolonged compulsory education from 9 to 10 years. The starting age was 5 (Murtin & Viarengo, 2011). Thus the school age was from 5 to 15. The first cohort affected was born before 1941.

1973: A reform that increased compulsory education from 10 to 11 years was implemented in 1973 in England and Wales (Murtin & Viarengo, 2011). Thus the school age was from 5 to 16. The first cohort affected was born between 1956 and 1960 (1973 − 14 = 1959).

Greece

1927: In 1927, compulsory education lasted for 6 years (ages 6–12). The first cohort affected was born before 1941 (Garrouste, 2010).

1976–1977: The 1976–1977 reform increased the years of compulsory education so that compulsory education ended at the age of 15 (Georgiadis, 2005), and in 1975, basic education was established for children aged 6 to 15 (Brunello et al., 2009; Fort, 2006; Garrouste, 2010, pp. 24–25, 58–59, 243–253). According to Brunello et al. (2009), the first cohort potentially affected was born in 1963, thus the reform affected the cohort born between 1961 and 1965 in our dataset.

Hungary

1945: In 1945, compulsory education was lowered to ages 6–14 (Garrouste, 2010, p. 247; PERFAR, 1951). The first cohort affected was born before 1941.

Ireland

1929: The School Attendance Act required children to attend school between the ages 6 and 12 (Brunello et al., 2009; Garrouste, 2010; Murtin & Viarengo, 2011). The first cohort affected was born before 1941.

1972: In 1972, the compulsory education age was extended to 15. According to Brunello et al. (2009), the first cohort affected was that born between in 1958 (Brunello et al., 2009; Garrouste, 2010, p. 261; Murtin & Viarengo, 2011). Thus the reform affected the cohort born between 1956 and 1960 in our dataset.

Israel

1949: A 1949 law established compulsory education for children aged 5–13 (Garrouste, 2010). The first cohort affected was born before 1941.

1968: In 1968, compulsory education was increased to the age of 15 (Garrouste, 2010). The first cohort affected was born between 1956 and 1960 [1968 − 12 = 1956].

1979: The 1979 reform raised the compulsory education age to 18 (Garrouste, 2010; Volansky, 2007, pp. 27–28, 62–64). Although the reform first affected those born in 1965 (1979 − 14 = 1965), we chose the latter cohort (1966–1970) since a larger proportion of this cohort was affected.

The Netherlands

1949: In 1942, compulsory education was set at 8 years (ages 6–14). This reform was implemented in 1949 (Garrouste, 2010, p. 288; Murtin & Viarengo, 2011). The first cohort affected was born before 1941.

1975: The Compulsory Education Act ("the Mammoth Act") of 1969 (implemented in 1975) made it further compulsory for children to attend school from the age of 5 until the end of the school year in which they turn 16 (Garrouste, 2010, p. 288; Murtin & Viarengo, 2011). The first cohort affected was born between 1961 and 1965 [1975−13 = 1962].

1985: Since 1985, a law has established that children must attend school at least once per week until they turn 16, after which students are required to take one year part-time courses. (Garrouste, 2010; Levin & Plug, 1999; Murtin & Viarengo, 2011). The first cohort affected was born between 1966 and 1970 [1985 − 15 = 1970].

Norway

1960–1972: Mandatory schooling reform was implemented between 1960 and 1972. The reform extended the compulsory school leaving age from 14 to 16 (school started at the age of 7) (Aakvik, Salvanes, & Vaage, 2010; Murtin & Viarengo, 2011). The first cohort affected was born between 1946 and 1950 [1960 − 13 = 1947].

Poland

1956: In 1956, the first legal act after World War II established compulsory education for children 7–14 years old (PERFAR, 1956). The first cohort affected was born between 1941 and 1945. [1956 – 13 = 1943].

1963: In 1961, the Law on Development of Education Systems introduced 8–year primary school, and school attendance was mandatory until the age of 15. Some sources state that the reform was completed between 1963 and 1971 (Eurybase, 2009b). To calculate the first cohort affected, we used the year 1963. Thus the first cohort affected was born between 1951–1955 [1966 − 13 = 1953].

1973: The compulsory education age was extended to 17 years of age (Leslie, 1980, p. 428). The first cohort affected was born between 1956 and 1960 (1973 − 14 = 1959).

Portugal

1956: In 1938, compulsory education lasted for 3 years, and the school starting age was 6. Compulsory education was increased to 4 years in 1956 for boys (ages 6–10) and a year later for girls (we chose 1956 as the implementation year). The first cohort affected was born between 1946 and 1950 (1956 − 8 = 1948).

1964: In 1964, compulsory education was further extended to 6 years (ages 6–12). The first cohort affected was born between 1951 and 1955 (1964 − 9 = 1955).

1986: In 1986, it was increased to 9 years (ages 6–15) (Garrouste, 2010, pp. 30–32, 69–70, 297–311; Murtin & Viarengo, 2011). The first cohort affected was born between 1971 and 1975 (1986 − 11 = 1975). We chose the latter cohort (1976–1980) since a larger proportion of this cohort was affected compared to the previous cohort.

Russia

1949–1951: Four–year compulsory schooling was introduced in 1930 and was completed in 1933 (Chabe 1970, 527–528). The first cohort affected was born before 1941. Compulsory schooling was extended to seven years (ages 7–14), starting in 1949 and completed in 1951. The first cohort affected was born before 1941.

1959–1961: Compulsory education was further extended to eight years (ages 7–15) starting in 1959 and completed in 1961 (Chabe 1970, 527–528). The first cohort affected was born between 1946 and 1950 (1959 − 13 = 1946).

1970: In 1970 the ten–year compulsory school was introduced (ages 7–17) (Chabe 1970, 527–528). Most started school at the age of 7. The first cohort affected was born between 1956 and 1960 (1970 − 14 = 1956).

Slovakia

Between 1948 and 1989, Slovakia was part of Czechoslovakia.

1953: In 1953, compulsory school was shortened to eight years (ages 6–14) (Eurybase, 2007, p. 60). The first cohort affected was born before 1941.

1960: In 1960, it returned to nine years (ages 6–15) (Eurybase, 2007, p. 60). The first cohort affected was born between 1946 and 1950 (1960 − 13 = 1947).

1976: The Education Reform 1976 established an 8–year primary school requirement, and the compulsory school age was between 6 and 16 years old (Eurybase, 2007, p. 60–61). The first cohort affected was born before 1961–1965 (1976 − 14 = 1962).

Slovenia

Between 1918 and 1991 Slovenia was part of Yugoslavia.

1950: After the Second World War, compulsory education started at the age of 6 and lasted for eight years. 8–year compulsory education was reintroduced in 1950 (ages 6–14) (Gabrič, 2000; Kramberger, Nieuwbeerta, & Ganzeboom, 2000; Myers & Campbell, 1954, p. 56). The first cohort affected was born before 1941.

Spain

1970: In 1970, the General Act on Education and Financing of Educational Reform increased the minimum school leaving age from 12 to 14 (Brunello et al., 2009; Murtin & Viarengo, 2011). According to Brunello et al. (2009), the first potentially affected people were those born in 1957.

1990: In 1990, the Act on the General Organisation of the Education System established compulsory education up to the age of 16. The first cohort affected was born between 1976 and 1980 (Garrouste, 2010; Murtin & Viarengo, 2011).

Sweden

1949–1962: Education Reform extended the compulsory education from 8 to 9 years (ages 7–16). The reform was gradually implemented across municipalities during 1949–1962 (Garrouste, 2010; Murtin & Viarengo, 2011). The first cohort affected was born before 1941.

Switzerland

1970: In 1970, the Intercantonal Agreement on the Coordination on Compulsory Education increased compulsory schooling by one year, to start at the age of 6 and to continue for 9 years (ages 6–15). The year of implementation of the reform, however, varied between cantons (Murtin & Viarengo, 2011). The first cohort affected was born between 1961 and 1965 (1970 − 7 = 1963).

Ukraine

1936: In 1936, compulsory school lasted for seven years (ages 7–14). The first cohort affected was born before 1941.

1959: In 1959, reform of compulsory education resulted in it being extended to 8 years (ages 8–15) (Canadian Institute of Ukrainian Studies, n.d.). The first cohort affected was born between 1946 and 1950 (1959 − 13 = 1946).

Removal of dead ends

Austria

1986: Two distinct educational streams were eliminated and joined as one compulsory stream (Garrouste, 2010, p. 16). The first cohort affected was born between 1971 and 1975 (1986 − 14 = 1972).

1988: An amendment to the School Organisation Act focused on a more individual shaping of school life by introducing elective compulsory subjects and a new conception of the school leaving examination (Garrouste, 2010, p. 121). The first cohort affected was born between 1971 and 1975 (1988 − 14 = 1974).

Belgium

1964: The "Omnivalence law" of 8 June 1964 specifically provided greater access to higher education and certain university faculties. The law modified the university admission requirements by introducing a final exam and passing that exam to tertiary education (Garrouste, 2010, p. 140). The first cohort affected was born between 1941 and 1955 (1964 − 13 = 1951).

1971: A new law established a single structure of secondary education, which postponed the choice of stream from 15 to 16 years of age (Garrouste, 2010, p. 140; Wielemans, 1991). The first cohort affected was born between 1956 and 1960 (1971 − 13 = 1958).

Bulgaria

We are not aware of reforms that would facilitate access to tertiary education in Bulgaria. According to Daun & Sapatoru (2002, p.155), few or no reforms or changes occurred in the educational systems of the countries of Eastern Europe during the Communist era.

Czech Republic (Czechoslovakia)

1984: The School Act unified all three types of secondary schools (Eurybase, 2007, p. 14; Garrouste, 2010, p. 165). The first cohort affected was born between 1966–1970

(1984 − 14 = 1970). We chose the latter cohort (1971–1975) since a larger proportion of this cohort was affected compared to the previous cohort.

Denmark

We are not aware of reforms that would have facilitated access to tertiary education in Denmark.

Estonia

1965–1980: Transition to a system of unified, compulsory secondary education started in the 1960s, and it was officially completed by 1980, although the aim of universal participation was not fully achieved (Saar, 2008). The first cohort affected was born in 1951–1955 (1965 − 14 = 1951).

Finland

1966–1986: The First Higher Education Development Act was established. Its purposes were to ensure the growth of resources for higher education, to increase the number of study places, to increase regional equality and to ensure the international compatibility of the system (Garrouste, 2010, p. 195). The first cohort affected was born between 1951 and 1955 (1966 − 15 = 1951).

France

1963: In 1959, a counselling and guidance mechanism was established, where a counselling service assisted children in their further educational choices based on their skills and aptitude. The Fouchet–Capelle reform transformed the two–tier structure into a three–tier structure of 5+4+3 and prolonged the availability of councelling from one semester to two years (Resnik, 2007, 2008). The first cohort affected was born between 1946 and 1950 (1963 − 15 = 1950). We chose the latter cohort (1951–1955) since a larger proportion of this cohort was affected compared to the previous cohort.

1967: The Berthoin reform replaced selection at the point of entry to secondary school. The examination at entry to the 6th form, which controlled access to the first year of

secondary school, was abolished (Garrouste, 2010, p. 202; Resnik, 2007, 2008). The first cohort affected was born between 1951 and 1955 (1967 − 15 = 1952).

Germany

1960: A two–year orientation phase was introduced in grades 5 and 6 to give school children more time to consider future educational choices (Garrouste, 2010, p. 214). The first cohort affected was born between 1946 and 1950 (1960 − 13 = 1947).

Great Britain

1965: Secondary education was gradually transformed to a comprehensive system, with comprehensive high schools for all pupils (Schneider, 2008). The first cohort affected was born between 1946 and 1950 (1965 − 15 = 1950). We chose the latter cohort (1951–1955) since a larger proportion of this cohort was affected compared to the previous cohort.

Greece

1982–1985: PASOK's reform composed of reformation of the curricula, abolition of the 16–plus examinations, modification of the tertiary education entrance examinations system and establishment of the integrated upper secondary comprehensive school (Georgiadis, 2007). The first cohort affected was born between 1965 and 1970 (1982 − 14 = 1968).

Hungary

1990: A new law came into effect in 1990 that allowed for a number of high schools to initiate new academic routes, making it possible for students to enter high school as part of their 8–year programs – following either the fourth or sixth year of education – before completing their primary education core courses. (Halasz, Garami, Havas, & Vago, 2001). The first cohort affected was born between 1976 and 1980 (1990 − 13 = 1977).

Ireland

1962–1967: Free secondary education was introduced. The so–far dual system of education was altered by permission granted to vocational schools to enrol pupils for the same public examinations as the traditional secondary schools. Secondary-level education was made available to all children without payment of fees (Clarke, 2010, p. 399; Garrouste, 2010, pp. 262–261). The first cohort affected was born between 1946 and 1950 (1962 − 13 = 1949).

Israel

1990s: Reform of the Bagrut Examinations occurred in 1994. Reforms in Israeli secondary education that were implemented during the 1990s included the academisation of vocational tracks and the lowering of requirements for matriculation examinations. The matriculation diploma is a major gatekeeper in the Israeli stratification system, and it determines, to a large extent, who will go to a university and into the professional and managerial class and who will turn to working–class occupations. The reforms were designed to raise eligibility rates for the matriculation diploma and to reduce ethnic and class inequalities (Ayalon & Shavit, 2004). The first cohort affected was born between 1976 and 1980 (1994 − 17 = 1977).

Netherlands

1968: The Secondary Education Act (WVO) in 1968, popularly known as the Mammoth Act, was introduced. A major aim of the act was to increase mobility between the various parts of the secondary education system (Garrouste, 2010, p. 286). The first cohort affected was born between 1951 and 1955 (1968 − 15 = 1953).

1977: Since 1977, educational policies have aimed mainly at decreasing inequality by: (1) facilitating the possibility of switching between vocational and academic tracks of study; (2) weakening the admission rules; and (3) improving the scholarship system. At the same time, the number of students at higher education has expanded (Maas & Ganzeboom, 2007). The first cohort affected was born between 1956–1960 (1977 − 17 = 1960). We chose the latter cohort (1961–1965) since a larger proportion of this cohort was affected compared to the previous cohort.

Norway

1974: In 1974, the upper secondary education system changed from a segregated system, in which vocational training and academic education were separate paths, into one comprehensive system (Briseid, 1995.) The first cohort affected was born between 1956 and 1960 (1974 − 15 = 1959).

Poland

1989: Some basic vocational schools became general secondary schools but with lower entrance standards than the other lyceums, providing more students with an opportunity to prepare for university (OECD, 2011). The first cohort affected was born between 1971 and 1975 (1989 − 16 = 1973).

Portugal

1974: After 25 April 1974, the two main changes made to upper secondary education consisted of unifying the general course and creating general complementary courses to unify the two existing branches of teaching (Garrouste, 2010, p. 304). The first cohort affected was born between 1956 and 1960 (1974 − 14 = 1960). We chose the latter cohort (1961–1965) since a larger proportion of this cohort was affected compared to the previous cohort.

1976–1986: Between 1976 and 1986, the Portuguese educational system was restructured. The technical and academic secondary educational systems were integrated and unified, and the aim was to prevent routing students by their socio–economic origin (Da Cunha, 1993; Garrouste, 2010, p. 304). The first cohort affected was born between 1961 and 1965 (1976 − 14 = 1962).

Russia

We are not aware of reforms, other than those related to changing the compulsory education age that occurred in Russia between 1950 and 1990.

Slovakia

1984: The School Act unified all three types of secondary school (Eurybase, 2007, p. 14). The first cohort affected was born between 1965 and 1970 (1984 − 15 = 1969).

Slovenia

1981: A major educational reform started when a unified school–based system of education and training of youth and adults was introduced (Ivančič, 2008). The first cohort affected was born between 1965 and 1970 (1981 − 13 = 1968).

Spain

1970: The General Act on thee Education and Financing of the Educational Reform declared lower secondary education compulsory and introduced a single structure that combined primary and secondary education. This act regulated and structured the entire Spanish education system for the first time in the 20th century (Garrouste, 2010, p. 317). The first cohort affected was born between 1956 and 1960 (1970 − 13 = 1957).

1983: A reform of 1983 reorganised the secondary education into two cycles, where the first cycle was common to all students aged 14 to 16 years. The second cycle offered two possibilities: academic and vocational (Garrouste, 2010). The first cohort affected was born between 1966 and 1970 (1983 − 15 = 1968) (Garrouste, 2010, p. 317–318). The first cohort affected was born between 1966 and 1970 (1983 − 15 = 1968).

Sweden

1960: The bipartite system was replaced by single–structure basic education providing 9 years of compulsory education. Years 1–6 of this schooling correspond to primary education and the later years (7–9) to lower secondary education (Garrouste, 2010, p. 334; Halldén, 2008). The first cohort affected was born between 1946 and 1950 (1960 − 15 = 1945). Although the reform first affected those born in 1945, we chose the latter cohort (1946–1950) since a larger proportion of this cohort was affected compared to the previous cohort.

1970: Reform united upper secondary schools, lower technical–vocational schools and vocational education in a single upper secondary school (Garrouste, 2010, p. 334). The

first cohort affected was born between 1951 and 1955 (1970 − 15 = 1955). We chose the latter cohort (1956–1960) since a larger proportion of this cohort was affected compared to the previous cohort.

Switzerland

We are not aware of reforms other than those related to changing the compulsory education age that occurred in Switzerland between 1950 and 1990.

Ukraine

We are not aware of reforms, other than those related to changing the compulsory education age that occurred in Ukraine between 1950 and 1990.

Tuition and fees

Austria

2000: The Imperial Act on Primary Education abolished fees (Garrouste, 2010, p. 15), and Austrian universities remained free of charge until 2000 (Eicher, 1998, p. 35; Marcucci & Johnstone, 2007).

Belgium

1980s: According to Eicher (1998), until the 1980s university fees in Belgium were $800 per year. Even though Duchesne and Nonneman (1998) argue that the fees were small and merely symbolic, we consider this amount significant.

Bulgaria

1999: A tuition–free system was introduced in 1999 (Haug & Tauch, 2001). The first cohort affected was born after 1980.

Czech Republic (Czechoslovakia)

1998: The 1998 Act also introduced the concept of study fees for students of public higher education institutions. Before this act, there were no tuition fees, and students'

families received an allowance, tax relief, and stipends (Mcmullen, 2004). The 1998 reform, however, did not apply to the cohorts of this dataset.

Denmark

According to Eicher (1998), until the 1980s, there were no university fees in Denmark. Information on further reforms on fees was not found.

Estonia

1956: Starting from 1941 birth cohort no fees were in place; all higher education and school fees were abolished in 1956 (Saar 2010). Information on further reforms on fees was not found.

Finland

According to Eicher (1998), until the 1980s, there were no university fees in Finland. Information on further reforms on fees was not found.

France

According to Eicher (1998), until the 1980s, there were no university fees in France. Information on further reforms on fees was not found.

Germany

According to Eicher (1998), until the 1980s, there were no university fees in Germany. Information on further reforms on fees was not found.

Great Britain

1962: The Education Act 1962 practically abolished tuition fees (Anderson, 2016). The first cohort affected was born between 1946 and 1950 (1962 − 15 = 1947). Tuition fees were introduced later, but they did not have an effect on our dataset's cohorts (Callender 2002).

Greece

According to Eicher (1998), until the 1980s, there were no university fees in Greece. Information on further reforms on fees was not found.

Hungary

Traditionally, public higher education has been free of charge in Hungary. In the mid–1990s, tuition fees were introduced for all students; general tuition fees, introduced in 1996, were abolished again in 1998 (Haug & Tauch, 2001; Vossensteyn, 2005). The 1996 reform, however, did not apply to this dataset's cohorts.

Ireland

In 1967, tuition fees were abolished and replaced by state grants (Raftery and Hout, 1993). The first cohort affected was born between 1951 and 1955 (1967 − 14 = 1951).

Israel

Tuition fees were implemented in the mid-1970s and they ranged from approximately 10% of the ordinary budget of universities to 4% in 1982 and approximately 20% in 1995 (Iram & Shemida, 1998). [1975 − 17 = 1958]

Netherlands

In the Netherlands, tuition fees were established already in 1945, when students in publicly funded higher education had to pay a tuition fee (Vossensteyn, 2005, p. 20).

Norway

According to Eicher (1998), until the 1980s, there were no university fees in Norway. Information on further reforms on fees was not found.

Poland

1990: In Poland, education in public schools was tuition free. The Act on Higher Education of 1990 allowed higher education institutions to charge tuition fees, except

for regular full–time students in state higher education institutions (Vossensteyn, 2005, p. 26). The first cohort affected was born between 1971 and 1975 (1990 − 16 = 1974).

Portugal

1941: Tuition fees were frozen beginning in 1941, representing a value of 6 euros per year in 1990. In 1997, the legislature reintroduced an updated tuition fee (Eicher, 1998; Vossensteyn, 2005, p. 33). The 1997 reform, however, did not apply to this dataset's cohorts.

Russia

1956–1957: All school and tuition fees were abolished starting from the school year 1956–1957 (Deutscher 1957; Saar 2010). The first cohort affected was born before 1941. Information on further reforms on fees was not found.

Slovakia

1998: The 1998 Act also introduced the concept of study fees for students of public higher education institutions. Before this act, there were no tuition fees, and students' families received an allowance, tax relief, and stipends (Mcmullen, 2004).

Slovenia

Institutions of higher learning also generated some income through direct cooperation with industry and by charging tuition fees only to part–time and postgraduate students (Šoljan, 1991). This information was however ignored since we included only fees that covered full-time undergradute students.

Spain

According to Eicher (1998), until the 1980s, there were no university fees in Spain. Information on further reforms on fees was not found.

Sweden

According to Eicher (1998), until the 1980s, there were no university fees in Sweden. Information on further reforms on fees was not found.

Switzerland

According to Eicher (1998), until the 1980s, there were no university fees in Switzerland. Information on further reforms on fees was not found.

Ukraine

1990s: After the collapse of Soviet union, public higher education institutions admitted additional tuition–paying students along with state–funded students (Gebel & Baranowska–Rataj, 2012). This, however, did not have an effect on our dataset's cohorts.

Discussion and limitations

This dataset aims to provide historical information about educational reforms undertaken in 25 European countries between 1950 and 1990. The dataset was collected originally for research projects (see Pöyliö, Erola and Kilpi–Jakonen 2017, and Pöyliö and Kallio 2016), but because of the complex nature of the comparative information available about educational reforms, the authors wanted to provide the dataset to a wider audience. Existing data on educational reforms are often limited to recent decades, or the information must be collected from written reports and research articles. Therefore, we hope that this comparative dataset provides new possibilities to use macro–level measures in empirical analyses.

Because the problem of comparability is often present in cross-national analyses, the same problem arises here when creating measures for such analyses. To have measures for policy reforms across countries that have developed and changed along at least slightly different paths, the measures have become reasonably broad. In this dataset, this problem applies especially to educational dead ends and tuition fees, when qualitative differences in the reforms could not have been considered. The fees variable had to be

measured very scarcely and without considering the differences between countries in the forms and amounts of tuition. Elimination of educational dead ends, similarly, is measured rather scarcely with only three categories, which can include a variety of reforms.

The historical aspect of the dataset provides a geographic dilemma: the borders of some countries have changed over time, and some countries have had multiple educational systems within countries. Countries such as Germany, Switzerland and Belgium had different educational systems depending on the region, causing some difficult decisions when fitting one outcome for each country. A similar problem was the destruction and emergence of new states and countries, such as East and West Germany, which unified as Germany, Czechoslovakia, which divided into two countries, or the fall of the former communist countries in Eastern Europe.

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Appendix

This dataset is a revised edition of the dataset used in Pöyliö & Kallio (2017) and Pöyliö, Erola & Kilpi–Jakonen (2017); therefore, some values differ between the current dataset and those used in the original research papers. Because more information becomes available constantly, there is also a constant need for revision. Therefore, for this published edition of the dataset on educational reforms, the information was re-checked and corrected. For detailed information on the exact revised (and previous) values, please contact the authors.

Country abbreviations in the dataset:

AT – Austria

BE – Belgium

BG – Bulgaria

CH – Switzerland

CZ – Czech Republic

DE – West Germany

DK – Denmark

EE – Estonia

ES – Spain

FI – Finland

FR – France

GB – Great Britain

GR – Greece

HU – Hungary

IE – Ireland

IL – Israel

NL – Netherlands

NO – Norway

PL – Poland

PT – Portugal

RU – Russia

SE – Sweden

SI – Slovenia

SK – Slovakia

UA – Ukraine

Appendix Table 1. Reforms on school–leaving age

Country	Birth cohorts 1941–1945	1946–1950	1951–1955	1956–1960	1961–1965	1966–1970	1971–1975	1976–1980	Year of the reform	Birth cohorts affected first
AT	14	15	15	15	15	15	15	15	1938, 1962	b1941, 1946–1950
BE	14	14	14	14	14	14	18	18	1914, 1983	b1941, 1971–1975
BG	14	15	15	14	14	14	14	14	1921, 1960, 1969	b1941,1946–1950, 1951–1955
CH	14	14	14	14	15	15	15	15	1970	1961-1965
CZ	14	15	15	15	15	14	14	15	1953, 1960, 1979, 1990	b1941, 1946–1950, 1966–1970, 1976–1980
DE	14	14	15	15	15	15	15	15	1949–1969	1951-1955
DK	11	14	14	16	16	16	16	16	1958, 1971	1946–1950 , 1956–1960
EE	15	15	15	15	15	15	15	16	1940, 1958, 1992	b1941, 1941–1945, 1976–1980
ES	12	12	12	14	14	14	14	16	1970, 1990	1956, 1976–1980
FI	13	13	13	13	16	16	16	16	1921, 1972–1977	b1941, 1961–1965
FR	14	14	16	16	16	16	16	16	1939, 1967	b1941, 1951–1955
GB	15	15	15	16	16	16	16	16	1944, 1973	b1941, 1956–1960
GR	12	12	12	12	15	15	15	15	1927, 1976–1977	b1941, 1961–1965
HU	14	14	14	14	14	14	14	14	1945	b1941
IE	12	12	12	15	15	15	15	15	1929, 1972	1956-1960
IL	13	13	13	15	15	18	18	18	1949, 1968, 1979	b1941, 1956–1960, 1966–1970
NL	14	14	14	14	16	16	16	16	1942–1949, 1975, 1985	b1941, 1961–1965, 1966–1970
NO	14	16	16	16	16	16	16	16	1960-1972	1946-1950
PL	14	14	15	15	15	15	15	15	1956, 1963,1973	1941–1945, 1951–1955, 1956–1960
PT	9	10	12	12	12	12	12	15	1956, 1964, 1986	1946–1950, 1951–1955, 1976–1980
RU	14	15	15	17	17	17	17	17	1949–1951,1959–1961,1970	b1941, 1946–1950, 1956–1960
SE	16	16	16	16	16	16	16	16	1949–1962	b1941
SI	14	14	14	14	14	14	14	14	1950	1936
SK	14	15	15	15	16	16	16	16	1953, 1960, 1976	b1941, 1946–1950, 1961–1965
UA	14	15	15	15	15	15	15	15	1936, 1959	1946–1950

* b1941 = born before 1941

Appendix Table 2. Reforms on removals of educational dead–ends.

	Birth cohorts									
Country	**1941–1945**	**1946–1950**	**1951–1955**	**1956–1960**	**1961–1965**	**1966–1970**	**1971–1975**	**1976–1980**	**year of the reform**	**birth cohorts affected first**
AT	0	0	0	0	0	0	2	2	1986, 1988	1971–1975, 1971–1975
BE	0	0	1	2	2	2	2	2	1964, 1971	1951–1955, 1956–1960
BG	0	0	0	0	0	0	0	0		
CH	0	0	0	0	0	0	0	0		
CZ	0	0	0	0	0	0	1	1	1984	1971–1975
DE	0	1	1	1	1	1	1	1	1960	1946–1950
DK	0	0	0	0	0	0	0	0		
EE	0	0	1	1	1	1	1	1	1965–1980	1951–1955
ES	0	0	0	1	1	2	2	2	1970, 1983	1956–1960, 1966–1970
FI	0	0	1	1	1	1	1	1	1966–1986	1951–1955
FR	0	0	2	2	2	2	2	2	1963, 1967	1951–1955
GB	0	0	1	1	1	1	1	1	1965	1951–1955
GR	0	0	0	0	0	1	1	1	1982–1985	1966–1970
HU	0	0	0	0	0	0	0	1	1990	1976–1980
IE	0	1	1	1	1	1	1	1	1962–1967	1946–1950
IL	0	0	0	0	0	0	0	1	1990	1976–1980
NL	0	0	1	1	2	2	2	2	1968, 1977	1951–1955, 1961–1965
NO	0	0	0	1	1	1	1	1	1974	1956–1960
PL	0	0	0	0	0	0	1	1	1989	1971–1975
PT	0	0	0	0	2	2	2	2	1974, 1976–1986	1956–1960, 1961–1965
RU	0	0	0	0	0	0	0	0		
SE	0	1	1	2	2	2	2	2	1960s, 1970	1946–1950, 1956–1960
SI	0	0	0	0	0	1	1	1	1981	1965–1970
SK	0	0	0	0	0	1	1	1	1984	1966–1970
UA	0	0	0	0	0	0	0	0		

Appendix Table 3. Reforms on tuition fees.

	Birth cohorts									
Country	**1941–1945**	**1946–1950**	**1951–1955**	**1956–1960**	**1961–1965**	**1966–1970**	**1971–1975**	**1976–1980**	**year of the reform**	**birth cohorts affected first**
AT	0	0	0	0	0	0	0	0		
BE	1	1	1	1	1	1	1	1		
BG	0	0	0	0	0	0	0	0		
CH	1	1	1	1	1	1	1	1		
CZ	0	0	0	0	0	0	0	0		
DE	0	0	0	0	0	0	0	0		
DK	0	0	0	0	0	0	0	0		
EE	0	0	0	0	0	0	0	0		
ES	1	1	1	1	1	1	1	1		
FI	0	0	0	0	0	0	0	0		
FR	1	1	1	1	1	1	1	1		
GB	1	1	0	0	0	0	0	0	1962	1946–1950
GR	0	0	0	0	0	0	0	0		
HU	0	0	0	0	0	0	0	0		
IE	1	1	0	0	0	0	0	0	1967	1951–1955
IL	0	0	0	1	1	1	1	1	1975	1956–1960
NL	1	1	1	1	1	1	1	1	1945	b1941
NO	0	0	0	0	0	0	0	0		
PL	0	0	0	0	0	0	1	1	1990	1971–1975
PT	1	1	1	1	1	1	1	1	1941	b1941
RU	0	0	0	0	0	0	0	0		
SE	0	0	0	0	0	0	0	0		
SI	0	0	0	0	0	0	0	0		
SK	0	0	0	0	0	0	0	0		
UA	0	0	0	0	0	0	0	0		

* b1941 = born before 1941