

A Historical Perspective on Child Labour in Portugal, 1950-2001

Pedro Goulart^a and Arjun S. Bedi^a

Abstract

This paper draws on data from censii, labour force and household surveys and qualitative information such as the testimonies of various stakeholders and news articles to provide an analysis of the evolution of child labour in Portugal between 1950 and 2001. The Portuguese experience is set against the backdrop of the country's economic structure and economic growth, demographic changes, educational expansion, schooling and labour legislation, and the changing norms espoused by its elites. The trajectory of child labour and particularly the rapid decline since the 1970s is interpreted in terms of the cascading effect of policies and events that operated synchronously. Our assessment suggests that while legal measures may help reduce child labour, they do not appear to be key determinants in the Portuguese experience. The use of children in the labour market appears to be driven mainly by the needs of the economic structure of the country, which in turn may be reflected in the norms and values espoused by its political leaders and their willingness to pass and implement legal measures.

Keywords: Child labour; History; Portugal; Technology

^a International Institute of Social Studies, Erasmus Universiteit Rotterdam. The corresponding author is Goulart (goulart@iss.nl).

The full research project addresses a larger period: 1850-present. This paper builds on Goulart and Bedi (2007) and a revised version of the paper has been accepted for publication in a book titled "Child Labour's Global Past", edited by K. Lieten and E. van Nederveen Meerkerk and to be published by Peter Lang. The paper has been presented at the following conferences/seminars: Child Labour's Global Past, IISH, November 2006; International CERES/EADI Summer School, UvA, June 2008; Macro-Micro Dynamics of Poverty Research Cluster Workshop, ISS, November 2009; Education Research Cluster Seminar, ISS, March 2010; 35th Economic Business Historical Society, May 2010. The authors thank Andrew Fischer, Ben White, Colin Heywood, Hugh Cunningham, Hugh Hindman, Jaime Reis, John Cameron, Judith Stein, Linda Herrera, Linda McPhee, Luciano Amaral, Lynne Doti, Margarida Chagas Lopes, Michael Grimm, Michael Huberman, Peter Knorringer, Robert Sparrow and Catarina Grilo for helpful comments and suggestions. We particularly thank João Guimarães and Tiago Mata for detailed comments. Goulart gratefully acknowledges the financial support from Fundação para a Ciência e Tecnologia, Portugal.

1. Introduction

In recent years there has been a rapid increase in the amount of empirical work on child labour.¹ Despite this explosion, analyses of the historical trajectory of child labour are limited. Indeed, the bulk of the papers that do provide a historical account are limited to the United States and to the core European economies while the evolution of child labour outside the prosperous European core has rarely been investigated.²

The aim of this paper is to address this gap by examining the case of Portugal, a peripheral European country for most of the last two centuries. Not long ago, high levels of child labour marked the country and only since the 1970s has there been a rapid and progressive decline in child labour. The relatively recent transition of Portugal to developed country status and the speed with which child labour has declined suggests that in addition to being of interest in itself, a study of the Portuguese case is likely to yield insights on the effectiveness of various policy options currently being pursued by developing countries and indeed at times being pushed by developed countries – for example, international labour standards, minimum-age legislation, trade sanctions - in reducing child labour. Legal-coercive measures may be potentially beneficial in a context of multiple equilibria (Basu and Van, 1998) or by changing the incentives towards human capital accumulation (Dessy, 2000). While their effectiveness has been disputed on the grounds that such actions are (i) protectionist devices to shelter developed country markets (Bhagwati, 1995, Srinivasan, 1996, Basu, 1999); (ii) that they are likely to drive children into worse forms of employment (Fallon and Tzannatos, 1998), and (iii) that

¹ According to Edmonds (2007) an Econlit search of keywords “child lab*r” yielded 6 articles in peer-reviewed journals between 1980 and 1990, 65 between 1990 and 2000, and 143 between 2000 and 2005.

² For example, historical accounts of the evolution of child labour in the United States are provided by Goldin (1979), Brown, Christiansen and Philips (1992) and Mochling (1999). Bolin-Hort (1989), Nardinelli (1990), Horrell and Humphries (1995) and Cunningham (1996) analyze the British experience, while studies on Belgium are provided by Scholliers (1995) and De Herdt (1996). Hindman’s (2009) atlas on child labour contains a number of contributions on the topic, however, peripheral Europe comprises a very small fraction of the developed country literature (3 articles and 14 pages out of a total of 54 articles and 203 pages).

there is little support for such an approach amongst those households that such actions seek to help (Grootaert and Kanbur, 1995), they continue to retain their appeal. Against this background, a historical assessment of the evolution of child labour in a recently developed country may be expected to shed light on the role that may be played by different approaches to tackling child labour in developing countries.

To meet its objectives the paper focuses on the evolution of child labour in Portugal between 1950-2001.³ Data from censii, labour force and household surveys and qualitative information such as the testimonies of various stakeholders and news articles is used to provide an assessment of child labour during each period. An assessment of the evolution of child labour set against the wider economic and political background is used to identify the main factors that may have influenced child labour in each period and subsequently to provide an overall understanding of events and policies that shaped the trajectory of child labour in Portugal.

The paper is organised in the following manner. The next section provides a review of the concepts used in the paper and identifies five main drivers of child labour. The third section deals with the Portuguese history, while the final section synthesises and concludes.

2. Concepts and taxonomy

2.1 Concepts

First, what is a child? Child and childhood are concepts that vary across time, space and strata and there are disagreements on the precise thresholds between childhood and “adulthood”. The general reference for this matter is the 1989 United Nations’ Convention on the Rights of the Child (UNCRC), which considers children as

³ The full research project addresses a larger period, including 1850-present, but earlier sub-periods (pre-1950) were omitted for sake of presentation. A full paper is available upon request.

individuals who are less than 18 years old.⁴ In this paper, for the most part we work with this threshold and provide information on the work participation of individuals in the 10-14 and 15-19 age ranges. Given that our aim is to provide a historical perspective, these categories are used in order to enhance temporal comparability - as for many periods under analysis data is only available for these age intervals.⁵ While it is clear that the definition of child and childhood does not remain constant over time, and while one may wish to provide an analysis that allows for period-specific age thresholds, this is unlikely to be a fruitful exercise, hence we opt for a fixed age-based approach.

Second, what is child labour? To distinguish from the popular and pejorative use of child labour, some scholars only employ the term “child labour” when they refer to the detrimental activities performed by the child, while activities which may or may not have harmful consequences are characterized more neutrally as “child work” (Boyden, Ling and Myers, 1998). This has led to the interesting but strenuous task of creating an inventory of what is good or bad for the child by the International Research on Working Children (IREWOC) research institute. Distinguishing between good, inoffensive or harmful child labour especially in the context of a historical analysis, such as this paper, is likely to be a complex exercise (Heywood, 2009). The changing concept of harmfulness over more than 100 years is likely to be an excruciatingly arbitrary task.

In this paper we use child labour and child work synonymously - reflecting its contribution to the production process, whether in a firm, farm or within the household. There is no overt intention of associating work with a harmful or harmless effect and the aim is to identify the main activity status of the child. In what follows we divide the main

⁴ While the UNCRC defines a child as 18 and below, the International Labor Organization has established 15 as the minimum age for work in article number 138 in the 1973 Minimum Age Convention, with an allowance for light work after the age of 12. Typically, taking into account compulsory school laws, country-specific legislation builds upon these conventions.

⁵ For the first few periods under analysis we have information only for the age group 10-19. Thereafter we can distinguish between children in the age group 10-14 and 15-19 but cannot provide a finer distinction as the data are available only for these age ranges. These two groups may be viewed as children (10-14 years old) and youth (15-19 years old).

activity of a child into two distinct categories, that is, whether a child is employed (engaged in paid work) or occupied (unpaid work on the family firm/farm/house). In essence, child labour is disaggregated by its position in relation to the labour market, distinguishing between employment and other activities.

2.2 Historical analyses of child labour – A review

Contemporary global attempts to prevent child labour such as the 1989 UNCRC and country-specific attempts are likely to draw inspiration from the virtual elimination of child labour in currently developed countries.⁶ While the low child work participation rate in developed countries is not disputed, the manner in which these countries have achieved this goal remains a contentious issue.

According to Cunningham and Viazzo (1996), till the early 1970s the “traditional view” of the history of child labour remained undisputed. According to this view, industrialization (the industrial revolution) led to unprecedented use of child labour and children were rescued from their situation by activists and most importantly by the passage of effective child labour (minimum working age) laws (Hammond and Hammond, 1917, Hutchins and Harrison, 1926).⁷ The traditional view which focuses mainly on industrial child labour, argues that while children did work before industrialization such work was not exploitative. Furthermore, it gives primacy to a legislative approach driven by socially aware campaigners in reducing child labour.

In the late 1980s and early 1990s a series of studies (Goldin, 1979, Bolin-Hort, 1989, Nardinelli, 1990, Horrell and Humphries, 1995) challenged this traditional view. These papers argued that child labour was widespread in non-industrial settings and may have taken place under more harmful conditions than during the industrial revolution.

⁶ According to ILO (2002) the average child work participation rate in developed countries is about 2%.

⁷ The industrial revolution originated in England in the 1760s and spread to other European countries thereafter.

Since minimum working age laws were applicable essentially to industrial employment it is unlikely that the bulk of working children came under the ambit of such laws and hence unlikely that the widespread disappearance of child labour may be attributed to such laws. These papers offered an alternative assessment of the factors driving the historical decline of child labour in currently developed countries.

Based on an assessment of the literature, five main drivers - demography, technology, household income, labour legislation and activism, and schooling – may be identified. Broadly, demography, fertility and the share of children in the population changes the role of children in society by regulating child abundance and influences child labour practice. The level and type of technology constrains the production system and eventually the contribution of children. Several authors have argued that lack of income forces families to send children to work and once a minimum income threshold is reached the issue would be solved. Societal values like legislation or activism frame the practice and are important in terms of promoting or censoring the practice. Availability (and quality) of schooling is assumed to be inversely correlated to child labour practice and an increase in schooling is expected to translate into reductions in child labour. Most advocates of each driver do not suggest that there is a monocausal relationship, but highlight one of the factors listed above as the key force driving child labour.⁸

3. The Portuguese Experience

The Portuguese experience is divided into three general distinct periods defined by the character of Portuguese political governance. The first period is defined as period pre-

⁸ Following subsections considering each of these factors in more detail were omitted for the purpose of this conference, but are available upon request.

1950, the second period is the late phase of the dictatorship (1950-1974) and then followed by a second period of democratisation (1974-2001).⁹

3.1 The period pre-1950

Economic and Political Background

Portugal was a rural country well into the twentieth Century. Rural lobbies were strong and investments focused on agriculture (Mónica, 1978).¹⁰ The industry that did develop was characterized by unsophisticated consumer goods. The mode of production was predominantly artisanal and required intensive use of low-skilled labour (Aguiar and Martins, 2005). The bulk of the population continued to work in agriculture (about 50 percent in the 1950s) while the share of industrial employment rose marginally to about 24 percent (see Figure 1). At the same time, a declining death rate and a sticky birth rate meant high natural population growth rates (see Figures 3 and 4).¹¹ The main picture emerging on the economic front during this period is one of continued reliance on low-tech agriculture and limited structural changes. The increase in land brought under cultivation and increase in rural wages supports the idea that agriculture continued to offer suitable employment opportunities.

A parliamentary discussion of education laws in 1938 provides compelling information on how education was understood — Mónica (1978); Carvalho (2001) (2001); Henriques Carneiro (2003). For example,

⁹ While alternative divisions are possible we choose to work with these four periods as they lend themselves naturally to clear divisions in Portuguese history.

¹⁰ On agricultural lobbies and the conflicts of different lobbies within Estado Novo see Amaral (1994).

¹¹ Following Galor and Weil (2000:826), the previous decade certainly contributed for that by easing the Malthusian equilibrium. The 1910's were marked by considerable emigration and disease (Spanish flu), which lessened the land constraint as in the 19th century in Western Europe. This launched the seeds for accumulation and, as living standards rose, mortality fell (Galor and Weil, 2000:809). Life expectancy at birth would increase considerably: from 40 years old in 1920, to 59 in 1950. However, Portugal would follow a slower demographic transition than Spain (Mitchell, 2007).

The teachings of abstract things are absolutely in discordance with the environment the student lives in. In a village a boy that becomes distinguished in primary schooling is a boy lost to his family.— Teixeira de Abreu;

(...) I would try to reproduce today the environment that I met fifty years ago in the rural school of my village. — Fernando Borges;

While gross primary school enrolment rose from 69 percent in 1930 to 99 percent in 1950, net enrolment rates were lower. Additionally, schooling was characterized by low quality with crowded classrooms (Figure 2). The average years of schooling of the population increased marginally from 0.9 in 1940 to about 1 year in 1950 (see Table 1). Higher education was intended for a minority, which included urban and rural elites and a growing urban middle class. Mónica (1978) suggests that for lower classes the opportunity cost of education was high while the perceived future benefits of schooling were low. The rationale was that the family could not afford to spare children's work or salary and there was no room for upward mobility in the regime's rigid social structure: '[i]n an illiterate society, ignorance does not constitute (...) a disadvantage; and it is also not a stigma because illiteracy is the rule, not the exception.'

Unsurprisingly, in terms of literacy rates, by the 1950s Portugal lagged even further behind its European counterparts (Candeias and al., 2004). From a literacy rate of 25 percent in 1900, Portugal recorded a literacy rate of 55 percent in 1950. This 30 percent increase, while not small, pales in comparison with the increase in literacy rates from 25 to 90 percent in Russia/Soviet Union and other eastern and southern European countries.

Child labour

Politically there was all-round support for child labour. As may be inferred from the attitude towards schooling and the idealization of a rural and simple life, during this period child work was looked upon favourably. While a 1934 law extended the prohibition of work amongst children under 12 years old from industry to commercial enterprises (Campinho, 1995), work performed within the household or in a rural setting

continued to be allowed. In 1938, Pacheco de Amorim, a parliamentarian, stated, “[c]hild labour is a good school of responsibility”. In contrast to rural labour, the “cruel” industrial working conditions were denounced by an urban elite. For example, newspaper articles in *Diário de Notícias*, the regime’s official newspaper, highlighted cases of ‘children of 10/12 years old that earned 11 escudos per week, underfed, and working excessively long hours’ (Mónica, 1978). Despite denouncing industrial child labour, new legislation on preventing child labour, introduced in 1934 and 1936, simply confirmed the 1891 law and retained the minimum working age for industrial employment at 12 years.

The opposition also tended to support child labour, even though it also emphasised education.¹² In 1936, *Avante*, the journal of the Portuguese Communist Party, pledged that the “Portuguese Communist Party (...) struggles for the liberation of adults and the salvation of children”.¹³ In 1938 it denounced the differences between children of different classes. While some children were able to go to school, others had to work, selling newspapers or vegetables. Six or seven year old children worked in quarries near Lisbon, “earning painfully their bread, those children that never knew where there was a school”. In 1937, it reported a work accident in Aveiro, where stone mines used almost exclusively 7 to 14 year olds as workers, who received salaries varying between one fourth to two fifths of the adult pay.¹⁴ In 1941, the neo-realist novel “*Esteiros*” written by a communist militant described the harsh life of child workers in a

¹² ‘*Avante*’, the journal of the Portuguese Communist Party, was analysed by a search using the following key words: child, labour, child labour. The relevant material was selected. The material was accessed online in November 2009.

¹³ However, *Avante* seemed to find no contradiction in reporting in 1937 that children in USSR had compulsory schooling (7 to 17 years old) and “were free of exploitative work”, when one year before it had proudly announced 950 students participated in the construction of a railroad track with 3,400 km in the same USSR.

¹⁴ In 1937 in Lisbon, it refers that girls of 11 to 15 years old were registered at the City Hall as prostitutes.

brick factory.¹⁵ However, while the Communist party denounced the use of child labour in “harsher” sectors, it did not comment on the use of child work in agriculture.¹⁶

In sum, in spite of the growing concern in some sectors of the Portuguese population of the hardship of child labour and particularly the exclusion of schooling, (agricultural) work was seen as normal or at least a necessity, and therefore a lesser evil.

Nonetheless, in terms of working conditions, while the situation in agriculture and domestic services may not have been as poor as in industry, they were certainly not harmless. “Colectivo 9º ano” (2006) presents the life stories of men and women who lived in Alentejo from 1920 to 1974 and had migrated to Setúbal, a town in the coastal area. According to these life histories,

children did not stay long in school and girls were worse off because of prejudice and of their usefulness for other tasks. Most children started working when they reached nine years, sometimes sooner. The ones who did not go to school used to work full time while those who did attend school worked after school hours. Girls worked in domestic services for the big landowners, or would go to the nearest village, city or even Lisbon. Often there was no remuneration and the work only assured their meals. Boys started by taking care of cattle, chicken and pigs and by twelve or thirteen, they could try to work in the fields. The tasks were plucking olives and harvesting wheat, and children were always included in large groups of workers, but earned less. The money would go to the family or more likely to the father. Children would usually get up at five o’clock in the morning, eat something before work and then walk many miles to the fields. The work finished at sunset and they reached home nine, ten o’clock in the evening. Girls could still have domestic chores to do.

Against the economic and political background of this period, the stability of child employment between 1900 and 1950 (between 43 and 46 percent for 15-19 year olds) can be readily understood (see Tables 3 and 4).¹⁷ A reliance on low technology and a rural way of life made child labour possible and necessary (demand). At the same time,

¹⁵ Interestingly, this novel is still widely read and used in today’s school system and still shapes some views on child labour. Its author, Soeiro Pereira Gomes, had it then dedicated to the “children of the men who had never been children” and would die in clandestinity by 1949.

¹⁶ Later this would change. In the 1950’s, Álvaro Cunhal, leader of the Portuguese communist party, dedicated a section of his book “Contribuição para o Estudo da Questão Agrária” to the matter.

¹⁷ The method of data collection changed between the 1940 and the 1950 Census. The introduction of a closed question technique supposedly reduced the subjectivity of self-classification (Torres, 2009). Even if this was the case and part of the increase is simply due to better reporting, given the background provided above, it is unlikely that child labour fell during the period.

demographic growth guaranteed a generous supply of labour. While educational access did increase during this period, limited opportunities for those who did acquire schooling ensured that schooling did not interfere with work. Formal enrolment figures were also distinct from attendance and particularly succeeding at school. From the perspective of rights and laws, minimum working age laws did not change during this period while compulsory schooling laws weakened. Ensuring a steady agricultural labour supply was crucial as rural elites feared labour shortages and this was amply reflected in the politically consensual view on children working in rural areas.¹⁸

3.2 The period 1950-1974

Economic and Political Background

In 1950, the regime began promoting economic and social reforms. After an initial rejection of the Marshall Plan, the regime formalized a development plan for the 1949-51 period (Garoupa and Rossi, 2005). Key aspects of this plan included internationalization, and industrial and agricultural development through upgrading of production technology.¹⁹ From an emphasis on agriculture, industrial development was promoted and low agricultural wages and low cereal prices were used to transfer surpluses from agriculture to industry — see Confraria (2005) and Soares (2005). Set in the context of a post-WWII European boom, two key economic events during this period were Portugal's entry into the European Free Trade Agreement (EFTA) in 1960 and the signing of bilateral labour supply agreements with France and The Netherlands in 1963 and the German Federal Republic in 1964.

In 1960, Portugal entered the European Free Trade Agreement (EFTA). The subsequent increase in exports to European countries led to industrial specialization and

¹⁸ For more details see our work for earlier periods.

¹⁹ Amaral (1994) traces the seminal legislation on post-war industrialisation to 1944-45, following the prevalence of industrialist lobbies.

increases in imports of investment goods led to the access and adoption of more advanced production technologies (Mateus, 2005).²⁰ For example, in agriculture, machines like the thresher, harvester-thresher and tractors became increasingly common. As shown in Table 5, the use of tractors in agriculture rose almost 17 fold between 1950 and 1975, the use of threshers doubled and the use of harvester-threshers quadrupled during this period. The continued utilisation of machinery during this period led to a sharp reduction in agricultural labour demand and between 1950 and 1973 the percentage of the work force engaged in agriculture fell from 48 percent to 27 percent. The contribution of a technology driven growth path is confirmed by Lains (2003) who shows that between 1947 to 1953 the growth of physical capital was responsible for about 50 percent of Portuguese annual GDP growth of 5.17 over this period (see Tables 6 and 7).

In both agriculture and industry, technological innovation meant the adoption of labour saving technologies and a reduction in the demand for labour. The decline in labour demand added to a high birth rate and a steady death rate (see Figures 3 and 4) may have been expected to lead to a growth in labour supply and a wage squeeze. However, the decline in labour demand was matched by massive emigration flows. A booming European economy urgently needed workers. Portugal signed bilateral labour supply agreements with France and The Netherlands in 1963 and the German Federal Republic in 1964 (Veiga, 2005). Subsequent (legal and illegal) emigration flows meant that more than 1.7 million or about 18-20 per cent of the Portuguese population left the country between 1950 and 1973.²¹ The direct effect of mass emigration of youngsters and

²⁰ For example, the textile industry a key employer of children began to modernize and become more capital intensive after the 1960's — Afonso and Aguiar (2005).

²¹ Poor living conditions, the start of a colonial war (1961) and the dictatorship were major push factors, while a booming post-World-War II Europe was the major pull factor. The destination of emigrants was mainly Europe. While in 1957 more than 10% of the legal immigrants went to Europe, by 1963 it had increased to 59%.

adults on the country's demographics as well as the indirect effect due to the emigration of the population in the fertile age group served as a check on population growth and translated into negative total population growth rates in the 1960's, in spite of the historical peak in natural growth rates during this period.²² Additionally, migration from rural to urban areas across the country accelerated in the 1940's and 1950's (Nunes, 1996). Increases in capital intensity and the decline in growth of labour translated into sharp wage increases in industry and particularly in agriculture. Between 1958 and 1972, wages in urban areas doubled and rural wages trebled (see Figures 5 and 6).

On the education front, the focus was on increasing investments in primary schooling and the training of technicians (Carvalho, 2001). Driven by the needs of the modernization strategy and especially the adoption of skill biased technologies, unskilled labour began to be viewed in a considerably different light by employers and the regime.²³ Education was now needed for a prepared labour force and consequently educational expenditure increased in the 1950's. In 1956 and 1960, compulsory education was increased from 3 to 4 years of schooling first for boys and later for girls. In 1964 it was raised to 6 years (Table 2). At the same time an increase in school quality as reflected in the pupil-teacher ratio which fell from 43 in 1950 to 31 in 1970 provided further incentive for schooling (see Table 1). The average years of schooling which had remained at about 1 year between 1940 and 1950 more than doubled to about 2.1 years by 1970 (Table 1). In 1969, the minimum legal working age was raised to 14 years (Campinho, 1995).

²² An 18 to 20 percent decrease in the Portuguese population translates into a greater than proportional decrease in the labour force as most emigrants were in the fertile, working age group (20-44 years old). See Tables 2.15 & 2.17 in Baganha and Marques in Valério (2001).

²³ The evolution of productivity during this period and the early period of democracy is contested. See Amaral (2009) for some of the debates.

Child labour

Information on child labour during this period comes from two sources – census data and labour surveys. As shown in Table 3, census data show that between 1940 and 1960 there is essentially no change in the extent of child participation in employment (remains at 15 percent for the 10-14 group and 43 percent for the 15-19 group). Overall, the incidence of child/youth labour remains at 45 percent for the younger age group and more than 80 percent for the older age group. Indeed, as displayed in Table 4, between 1890 and 1960 there is not much change in the incidence of child labour or the share of children as a percentage of the labour force. However, by 1970 clear changes begin to appear. Between 1960 and 1970 child labour participation for the younger group declines sharply from 43 to 16 percent while for the older age group it drops from 84 to 74 percent. Unemployment rate for the 10-14 age group increased during the period suggesting the decreased interest in this type of labour (Table 3). The main change for the younger age group emanates from reduced engagement in unpaid work.

In addition to census data, we use 14 labour surveys canvassed between 2001 and 2004 by the Portuguese Institute of Statistics (INE) to trace the trajectory of child labour. Each labour survey provides comprehensive information on 45,000-50,000 individuals regarding their relationship with the labour market. In addition, the surveys enquire about their past labour market experiences and their age of entry into the labour market. Using information on these adults and their working patterns while they were children we are able to sketch a picture of the patterns of child labour during the second half of the twentieth century. Based on the response to the question, “When did you start working for the first time”, we compute work participation rates for the age group 10-14 and 15-19 (see Figure 7).²⁴ While figures based on the census and the household survey

²⁴ We use the date of the first work experience that together with the person’s age allow us to extrapolate a age group participation rate. In previous work (Goulart and Bedi, 2007), we had computed different figures based on a household survey and the question “At what age did you start working?”. However, the trend

are not directly comparable, the figure does corroborate the finding that in the second half of the 1960's the work engagement of children in the younger age group declines while for the older age group participation rates remained relatively stable.²⁵

The sharp decline in child labour force participation amongst the younger group especially in terms of involvement in unpaid work (the main source of decline) is most likely to have been driven by the increased use of mechanization in agriculture and the consequent reduction in (child) labour demand. At the same time, the improvement in educational quality is likely to have increased the opportunity cost of working and provided an incentive to substitute schooling for education especially for the younger age group. The relatively smaller decline for the older age group may be attributed to the effects of the sharp emigration experienced during this time period. An 18-20 percent decrease in the Portuguese population implies a more than proportionate decrease in the labour force as most emigrants were individuals in the age group 20 to 44 (Valério, 2001). Thus, despite the labour demand decreasing effects of mechanization and increases in rural wages, the effect of the emigration flow is likely to have worked in opposite directions resulting in a smaller decline in labour participation amongst the older age group.

While the interaction between increases in rural wages, better quality education and the greater use of technology is likely to have led to an increase in demand for education and a reduction in the need for child labour the period also witnessed a decline in gender wage gaps in the late 1960's. While male wages in agriculture were about 1.9

then found suffered of selection bias by the lack of information about the non-employed in the sample, which these labour surveys also cover.

²⁵ The computed child labour rates differ due to the way the information is collected. Information based on censii pertain to the main activity at a point in time, while the estimates based on labour surveys also include seasonal work experiences and assume that the child continues to work thereafter. The labour surveys provide therefore an upper limit. The 1970 'census' was based on a 20 percent sample and is likely a lower margin for the true value.

time female wages in 1968, by 1973 the gap had fallen to 1.7 (Table 8). A similar pattern was observed in industry.

While it is hard to provide an assessment of the relative weight of the different factors that appear to be correlated with the reduction in child labour during this period our assessment suggests that the decline coincides with the sharp increase in agricultural mechanization and greater use of technology in industry as captured by the sharp increase in the rate of growth of physical capital during this period (see Table 6). The reduction in labour demand which could potentially have negative consequences for wage earners was matched by sharp emigration flows occasioned by the signing of bilateral labour supply agreements with Western European countries. It is worth pointing out that both these measures, that is, embarking on a technology driven approach to development and creating a vent for excess labour were policy choices and not deterministic. The subsequent translation of these policies into wage increases is likely to have contributed to the decline in demand for child labour and an increase in demand for education.

A final point is that the passage of legislation increasing the minimum working age to 14 took place in 1969 during a time when child labour amongst the younger age group had already started declining (see Table 3 and Figure 7). Furthermore, the law dealt with regulating the minimum working age for children involved in industry, only 17 percent of total child labour by 1960 (see table 4), while the decline in child labour took place mainly through reduction in child engagement in unpaid unregulated intra-household work. Both the timing and the source of the decline clearly suggest that the passage of the law may have been a consequence of the decline instead of a key factor determining the reduction in child labour witnessed during this period.

3.3 The period 1974-2001

Economic and Political Background

The overthrow of the dictatorship introduced political changes that led to democratization and to decolonization. In the early years of the post-dictatorship period, in a context of greater openness and labour abundance the economy experienced a resurgence of specialization in labour intensive, low-skilled and low-growth sectors (Lains, 2003). The currency experienced a sliding devaluation from 1977 (Aguar and Martins, 2005) and trade agreements with EEC in 1973 and 1977, made exports to Europe and subcontracting from European companies more attractive leading to an economic boom in some regions. The influx of population after decolonization and the end of emigration to Europe led to a sharp growth in population in the 1970s (see Figure 4). A restrictive governmental policy coordinated with the IMF targeted macroeconomic imbalances in 1979, with the share of social expenditures declining until 1982 and a reduction in real wages witnessed up to the mid-1980s.

In 1986, after 9 years of negotiations, Portugal joined the European Economic Community (EEC) and reached what some called the European bliss (Valério, 2000). The country received substantial flows of European funds which allowed increases in public expenditure, supported further restructuring of the economy, and supported a continuation of the process of technological upgrading. In particular, between 1975 and 1995 the use of tractors in agriculture doubled while the share of labour involved in agriculture continued to decline. While the 1970s and early 1980s had been marked by a return to low-tech manufactures, after EU accession the complexion of Portugal's exports and manufacturing employment became increasingly high-tech (see Table 9). After mid-1980's the real wages also started increasing.

Women's rights and (higher) equality regarding the law meant a major shift towards equalisation of pay across gender for the same job – see Table 8. This trend had

started earlier in some sectors, but democracy boosted and generalised it. Women participation rate increased from 28 percent in 1970 to 49 % in 1990. In the period fertility declined dramatically from 2.8 children per woman in 1970 to 1.4 in 2001 (see Table 8), while the share of population aged below 15 years old and the child dependency ratio had decreased to half of their 1970 values by 2000.²⁶

In terms of the overall picture of economic growth during this period, while per capita GDP growth fell as compared to the previous period (1950-1974), the country grew at a faster pace than the rest of Western Europe. From a per capita GDP which amounted to 36 percent of Western European GDP in 1913, by 2001, Portugal's per capita GDP had risen to 74 percent of Western European GDP. Lains (2003) shows that during the period 1973-1990, capital stock grew at an annual rate of 5.21 percent and was responsible for 44 percent of the country's output growth during this period. A remarkable change as compared to the rest of the century was the increasing importance of human capital in promoting economic growth (41 percent) and a sharp decline in the contribution of labour, which was almost negligible over this period (see Tables 6 and 7).

During this period the emphasis on education was enhanced. Educational expenditures rose and in 1976 the educational budget surpassed the military budget. A school milk programme became a powerful weapon against absenteeism and hunger (Silva, 1991). School conditions improved with the pupil-teacher ratio falling from 31 to 14 at the primary level and 19 to 10 at the secondary level. At the same time, increasing returns to educations provided a strong incentive to acquire education - at all education

²⁶ The decline in infant mortality rates preceded the decline in fertility. Increased urbanization (intensified from 1980 onwards) and the post-dictatorship diffusion of contraceptive methods contributed to declines in fertility. During this period the health system improved considerably and the number of physicians almost doubled between 1975 and 1985.

levels net enrolment rates increased until the early 1990's (Figure 9).²⁷ School attainment increased and average years of schooling of the active population rose from 2.1 in 1970 to 4.3 in 1991 (see Table 1).

Compliance with EEC norms led to an increase in compulsory education from 6 to 9 years of schooling in 1986. Consistent with compulsory education requirements, in 1991, the minimum working age was raised to 16.²⁸ During the late 1980s and 1990s, a now more demanding and internationally aware society began denouncing child labour. Unions and catholic organizations highlighted and disparaged child labour and several reports in the national and international popular press continued to highlight the plight of working children. In marked contrast to the views expressed by parliamentarians in 1938, in 1989 the Portuguese President referred to child labour as a “true scourge” (Williams, 1992). Under increasing national and international scrutiny the government undertook three main measures. Information was collected to place the child labour debate on an informed footing. In co-operation with the ILO, two household surveys especially designed to gather information on working children were conducted in 1998 and 2001. A special programme, PETI, was launched to study and fight child labour. The labour inspection regime was tightened and between 1997 and 2002, the number of labour inspections quintupled (see Figure 8).

²⁷ A polarization of education premiums from mid-1970's to 1980's — Amaral (2005), citing Sérgio Grácio — may have led to a initial reduction of interest in secondary education, but was soon overturned by increasing returns to education. Several studies have shown that there is a high rate of return to education in Portugal. For example, Pereira and Martins (2001) estimate a rate of return to education of nine per cent in the 1990's. This is at the upper end of the range of educational returns for developed countries. The precise periods of increasing returns to education vary from 1982-95 (Pereira and Martins, 2001) or 1985-91 (Santos, 1995).

²⁸ Currently, minors are only allowed to work under three conditions: they must be at least 16 years old, they must have completed compulsory school and there must be medical confirmation of their physical and psychological capabilities for that job. However, exceptions allow for a more gradual introduction to work. At 14 and 15 “light work” is allowed, some additional activities are permitted when the child is 16 and 17 years old and at 18 all types of work are allowed.

Child labour evolution

Our assessment of the extent of child labour during this period is based on figures from three censii (1981, 1991, 2001), labour force surveys (for the years 1976 to 1993 and 2001-04) and finally household surveys conducted specifically to identify the extent of child labour in 1998 and 2001.²⁹ As shown in Table 3, between 1970 and 1980 the employment and activity rates of the younger age group (10-14) remains in the same range as in 1970 (about 9 percent). Analysis of the labour force surveys (Table 10) yield a similar picture and shows that between 1976 and 1982 the employment rate for the younger age group remained steady at about 9 percent while the activity rate lay in the range of 12-15 percent (as compared to the census figure of 17 percent).

For the older age group (15-19 years olds) the evidence is mixed. Between 1970 and 1981, census data (Table 3) show a sharp decline in the employment rate from 55 to 40 percent and a decline in the activity rate from 74 to 54 percent). Labour surveys provide a different picture and show that between 1976 to 1982 employment rates remained at about 50 percent (higher than the census figure of 40 percent) while activity rates lays in the range of 59 to 64 percent (as opposed to the census figure of 54 percent).³⁰

After this period of relative stability in the incidence of child labour, child labour falls sharply in both age groups, independent of the source. The 1991 census reveals a sharp decline in child activity rates. For the younger age group the activity rates falls to about 9 percent by 1991 and for the older age group it drops to 40 percent. Just as had been seen for the younger age group between 1960 and 1970, the decline for the older

²⁹ For an assessment of the evolution of child labour in the textile and footwear sectors in Portugal see Eaton and Pereira da Silva (1998) and Eaton and Goulart (2009).

³⁰ Censii (Table 3) and extrapolations from labour surveys (Figure 7a) are reconcilable by considering the increasing role of (youth) unemployment in that period. These are not included in the activity rate of censii, but are certainly increasing the sporadic work experiences and making our assumption of working since the first work experience less reliable. The figures from the labour survey 1976-82 (Table 10) are more representative of a longitudinal study, as there is no replacement of the sample, and may suffer of regional bias of the impact of the structural adjustment plan.

age group may be attributed mainly to the sharp decline in child engagement in unpaid work between 1981 and 1991. Between 1991 and 2001 the downward trend continues and by 2001, child employment in the age group 10-14 is negligible while it is about 22 percent for the older age group (15-19). To provide a more modern assessment of the extent of child labour we rely on the two household surveys purposively conducted in 1998 and 2001 to assess the extent of child labour. As shown in Table 11, for the age group 6-15 in 2001 the activity rate was 8 percent while the employment rate was about 4 percent.

Thus, the period between 1974 and 2001 may be divided into a period of relative stability in child labour rates up to the early or mid-1980s and then a sharp decline. The stability may be attributed to the trade agreements and the currency devaluation which induced increased demand for Portugal's labour intensive products and child labour demanding industries like textiles, clothes and shoes.³¹ In addition to this demand-side effect, the population influx during this period and subsequent wage declines worked towards increasing the labour supply of children. The sharp declines post-1986 are likely to have been driven by a confluence of factors. Indeed the data suggest that the decline during this period are likely to be a result of continued technological upgrading in agriculture and industry, interacting with the effects of educational investments to increase economic growth which in turn reduced the need to rely on child labour (demand reduction). At the same time, the increase in wages, educational returns and declines in fertility are likely to have contributed to a reduction in the supply of labour.

The key difference in this period was of course EU accession which led to an increase in the minimum working age to 16 in 1991 and a renewed commitment by the government through public pronouncements and a regime of increased labour

³¹ The export share of these traditional sectors increased from 2.86 per cent between 1970-80 to 7.32 in 1980-90, and between 1988-92, their 25 per cent share in exports was as large as the share of Port wine in the previous century (Afonso and Aguiar, 2005).

inspections (between 1997 and 2002). While these are likely to have further increased the pressure to reduce child labour, as is evident from Table 3, the reduction in child labour was well under way by 1991 and indeed the bulk of the reduction in child labour for the older age group occurred between 1970 and 1991 (reduction from 74 percent to 40 percent) rather than after 1991 (40 to 23 percent) and it is hard to believe that an increase in the minimum working age law was a key factor responsible for reducing child labour during this period.

4. Synthesis and concluding remarks

Setting the changes in patterns of child labour in the last two centuries against the backdrop of the structure of economic growth, educational legislation and quality, labour legislation and the prevailing norms and attitudes towards working children, shows that child labour is amenable to policy. Furthermore, as the post-1950 Portuguese experience shows, when the various pieces are “in sync”, the pace of reduction in the incidence of child labour may be viewed as nothing short of astounding. The cascading effects of changing demography, economic structure, norms, educational and labour legislation led to rapid changes in the child labour force participation. However, the patterns also suggest that, similar to other social issues, no single legislation or policy is likely to be effective unless the various pieces come together.

Looking back over the course of the last two centuries there are several points about the Portuguese experience with child labour that should be highlighted. From 1820 to 1910 Portugal lagged behind most Europe in economic and social terms. Until 1950 it would start catching up economically, although lagging further behind in social terms. The second half of 20th century was marked by an economic and social recovery, with an emphasis on economic growth in the first quarter and an emphasis on social achievements in the second quarter. As the data presented in the paper show, child

labour has essentially vanished from formal employment and is minimal in other occupations, particularly for younger children. However, this decline should not be viewed as an inevitable outcome of economic growth.

The sharpest changes have occurred only in the last sixty years since 1950, and particularly after 1981. Before that, there was a slow decline. What is likely is that the early period of dictatorship delayed the transition from work to school that occurred in the core European countries and was occurring in the periphery. Concerns over the labour contribution of children often focused on a few sectors, in spite of the overall practice. The general perception that child labour was acceptable particularly in agriculture reflected the agrarian character of the economy of the time and the prevalent lobbies.

It was only in the 1950s and particularly in the 1960s that the demand for child labour began to abate impelled by the desire to modernize and industrialize the economy. Skill biased technologies were adopted and unskilled labour began to be viewed differently by employers and the political regime. Children's labour was less desired and children's unemployment rate increased. At the same time the expansion of schooling led to increases in minimum years of schooling to 4 and 6 years, and later in the minimum working age to 14. The population boom was checked by emigration, and eventually wage increases improved living conditions.

In late 1970s, labour force participation among younger children had a short period of slow down or even stabilisation as the economy had a shift towards labour intensive lower skilled technologies. However, by the early 1980's the declining trend was reasserted. As (quantity and quality of) education supply and average schooling years increased, its ratchet effect would feed into the process by competing with child labour and changing people's perceptions about schooling.

The involvement of all children in the labour force displayed a sharp decline for the rest of the century. The adoption of new technology and competition meant low-skilled labour intensive sectors were disappearing, while children themselves were becoming scarce as fertility declined. Both factors led to a shift in the needs of the country's economy and a further investment in children's quality. The economic structure demanded a more educated workforce and returns to education were high. National and international pressure promoted changes in social norms. Changes in educational and labour legislation promoting schooling and increases in educational quality and eventually labour inspections further contributed to the rapid reduction in child labour. Families also adhered to secondary education and youngsters were moving from workplaces to schools.

While it is difficult to discern a clear policy sequence from the pattern of change in child labour in Portugal, our analysis suggests that while the passage of compulsory schooling and minimum working age laws may have provided additional impetus, they were not the main drivers. These laws are unlikely to be implemented and to yield sustained reductions in child labour in economies that continue to rely on low-skill and low-wage labour to generate economic value. In the Portuguese case, labour laws by themselves were particularly less effective as Portugal often followed the majority of European countries where schooling laws preceded labour laws. In the early 1990's as both compulsory schooling and minimum age labour laws got more articulated their efficiency seemed to improve.

Instead our findings suggest that the long-run evolution of child labour was determined mainly by the needs of the economic structure of the country which conditioned the pattern of labour demand. While demography regulated labour availability and might have conditioned the range of policy choices, it was the progressive adoption of skill-biased technologies that pushed children away from the workplaces.

Children were less necessary and/or did not fulfil the requirements for the higher-skilled workers needed and child labour declined thereafter. If technology is suggested to have been crucial for the decline of child labour in Portugal, a potential policy implication relates to the transfer of (affordable) technology for developing countries. Cheap or even free technology could be the key to the acceleration of the decline of child labour throughout the world.

References

- Afonso, Ó. and Á. Aguiar.** "A Internacionalização Da Economia. Séc Xx," P. Lains and Á. Ferreira da Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 305-41.
- Aguiar, Á. and M.M.F. Martins.** "A Indústria," P. Lains and Á. Ferreira da Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 185-226.
- Alexandre, F.; P. Bação; J. Cerejeira and M. Portela.** "Employment and Exchange Rates: The Role of Openness and Technology," *IZA Discussion Papers 4191*. Bonn: Institute for the Study of Labor (IZA), 2009.
- Amaral, L.** "New Series for Gdp Per Capita, Per Worker, and Per Worker-Hour in Portugal, 1950-2007," Working Paper Faculty Economics, New University of Lisbon, 2009.
- _____. "O Capital," P. Lains and Á. Ferreira da Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 65-90.
- _____. "Portugal E O Passado: Política Agrária, Grupos De Pressão E Evolução Da Agricultura Portuguesa Durante O Estado Novo (1950-1973)." *Análise Social*, 1994, 29, pp. 889-906.
- Basu, K. and P.H. Van.** "The Economics of Child Labor." *American Economic Review*, 1998, 88(3), pp. 412-27.
- Bolin-Hort, P.** *Family and the State: Child Labour and the Organization of Production in the British Cotton Industry, 1780-1920*. Lund: Lund University Press, 1989.
- Boyden, J.; B. Ling and W. Myers.** *What Works for Working Children?* Stockholm and Florence: UNICEF, Radda Barnen, 1998.
- Brown, M.; J. Christiansen and P. Philips.** "The Decline of Child Labor in the U.S. Fruit and Vegetable Canning Industry: Law or Economics?" *Business History Review*, 1992, 66(4), pp. 723-70.
- Campinho, A.** *Regime Jurídico Do Contrato De Trabalho De Menores*. Braga: Editora Correio do Minho, 1995.
- Candeias, A. and et al.** *Alfabetização E Escola Em Portugal Nos Séculos Xix E Xx: Os Censos E as Estatísticas*. Lisbon: Fundação Calouste Gulbenkian, 2004.
- Carrilho, M.J.** "População Activa: Conceito E Extensão Através Dos Censos," Lisbon: INE, 1996.
- Carvalho, R. de.** *História Do Ensino Em Portugal: Desde a Fundação Da Nacionalidade Até Ao Fim Do Regime De Salazar-Caetano*. Lisbon: Fundação Calouste Gulbenkian, 2001.
- Colectivo 9º ano.** *De Sol a Sol. O Alentejo Dos Nossos Avós*. Setúbal, Portugal: Escola Secundária D. João II, 2006.
- Confraria, J.** "Política Económica," P. Lains and Á. Ferreira Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 397-421.
- Cunningham, H.** "Combating Child Labour: The British Experience," H. Cunningham and P. Viazso, *Child Labour in Historical Perspective -1800-1985. Case Studies from Europe, Japan and Colombia*. Florence: ICDC, UNICEF, 1996,
- Cunningham, H. and P.P. Viazso.** "Some Issues in the Historical Study of Child Labour " H. Cunningham and P. P. Viazso, *Child Labour in Historical Perspective*. Florence: UNICEF International Child Development Centre, 1996,
- De Herdt, R.** "Child Labour in Belgium: 1800-1914," H. Cunningham and P. Viazso, *Child Labour in Historical Perspective -1800-1985. Case Studies from Europe, Japan and Colombia*. Florence: ICDC, UNICEF, 1996,
- Dessy, S.E.** "A Defence of Compulsive Measures against Child Labour." *Journal of Development Economics*, 2000, 62, pp. 261-75.

- Eaton, M. and P. Goulart.** "Portuguese Child Labour: An Enduring Tale of Exploitation." *European Urban and Regional Studies*, 2009, 16, pp. 439-44.
- Eaton, M. and C. Pereira da Silva.** "Portuguese Child Labour: Manufacturing for Change or Continuing Exploitation in the Textiles Industry." *Childhood*, 1998, 5(3), pp. 325-43.
- Edmonds, E.** "Child Labor." *IZA Discussion Papers* 2606, 2007.
- Fallon, P. and Z. Tzannatos.** *Child Labor: Issues and Directions for the World Bank*. Washington, D.C.: World Bank, 1998.
- Garoupa, N. and L. Rossi.** "Instituições E Quadro Legal," P. Lains and Á. Ferreira Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 423-50.
- GIASE.** *Séries Cronológicas*. Lisbon: Education Ministry, 2006.
- Goldin, C. .** "Household and Market Production of Families in a Late Nineteenth Century American Town." *Explorations in Economic History*, 1979, 16(2), pp. 111-31.
- Goulart, P. and A.S. Bedi.** *A History of Child Labour in Portugal*. The Hague: ISS Working Paper Nr 448, 2007.
- Grootaert, C. and R. Kanbur.** "Child Labour: An Economic Perspective." *International Labour Review*, 1995, 134(2), pp. 187-203.
- Hammond, J.L. and B. Hammond.** *The Town Labourer*. London: Longmans, Green and Co., 1917.
- Henriques Carneiro, A.** *Evolução E Controlo Do Ensino Em Portugal*. Lisbon, Portugal: Fundação Calouste Gulbenkian, 2003.
- Heywood, C.** "A Brief Historiography of Child Labor," H. D. Hindman, *The World of Child Labour. An Historical and Regional Survey*. New York: M.E. Sharpe, 2009,
- Hindman, H.D.** ed. *The World of Child Labour. An Historical and Regional Survey*. New York: M.E. Sharpe, 2009.
- Horrell, S. and J. Humphries.** "the Exploitation of Little Children: Child Labor and the Family Economy in the Industrial Revolution." *Explorations in Economic History*, 1995, 32, pp. 485-516.
- Hutchins, B.L. and A. Harrison.** *A History of Factory Legislation*. Oxon: Frank Cass, 1926.
- ILO.** "Every Child Counts. New Global Estimates on Child Labour," Geneva: ILO, 2002.
- Lains, P.** "Catching up to the European Core: Portuguese Economic Growth, 1910-1990." *Explorations in Economic History*, 2003, 40, pp. 369-86.
- Mateus, A.** "Tecnologia," P. Lains and Á. Ferreira Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 125-56.
- Mitchell, B.R.** *International Historical Statistics, Europe 1750-2005*. New York: Palgrave MacMillan, 2007.
- Moehling, C.** "State Child Labor Laws and the Decline of Child Labor." *Explorations in Economic History*, 1999, 36, pp. 72-106.
- Mónica, M.F.** *Educação E Sociedade No Portugal De Salazar. A Escola Salazarista De 1926-1939*. Lisbon: Editorial Presença, 1978.
- Nardinelli, C.** *Child Labor and the Industrial Revolution*. Bloomington: Indiana University Press, 1990.
- Nunes, A.B.** "Portuguese Urban System: 1890-1991," P. T. Pereira and M. E. Mata, *Urban Dominance and Labour Market Differentiation of a European Capital City, Lisbon 1890-1990*. Norwell, Mass.: Kluwer Academic Publishers, 1996,
- Pereira, P.T. and P.S. Martins.** "Portugal," C. Harmon, I. Walker and N. Westergaard-Nielsen, *Education and Earnings in Europe*. Cheltenham, UK: Edward Elgar, 2001,

- Pereirinha, J.A.; M. Arcanjo and D.F. Carolo.** "Prestações Sociais No Corporativismo Português: A Política De Apoio À Família No Período Do Estado Novo," *Working Paper nº 35*. Lisbon: Gabinete de História Económica e Social, ISEG-UTL, 2009.
- Santos, M.C.** "Education and Earnings Differentials in Portugal," *PhD Thesis*. Faculdade de Economia, Universidade do Porto, 1995.
- Scholliers, P.** "Grown-Ups, Boys and Girls in the Ghent Cotton Industry: The Voortman Mills, 1835-1914." *Social History*, 1995, 20, pp. 201-18.
- Silva, Manuela.** *A Pobreza Infantil Em Portugal*. Lisbon: UNICEF, 1991.
- Soares, F.B.** "A Agricultura," P. Lains and Á. Ferreira Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 157-83.
- Torres, S.** "A História Das Estatísticas Do Trabalho Em Portugal - O Papel Do Inquérito Ao Emprego," *Estatísticas do Emprego*. INE, 2009.
- Valério, N.** *Estatísticas Históricas Portuguesas*. Lisbon: INE, 2001.
- . "The Portuguese National Question in the Twentieth Century: From Spanish Threat to European Bliss," A. Teichova, H. Matis and J. Patek, *Economic Change and the National Question in Twentieth-Century Europe*. Cambridge University Press, 2000,
- Veiga, T.R.** "A Transição Demográfica," P. Lains and Á. Ferreira Silva, *História Económica De Portugal 1700-2000*. Lisbon: Imprensa de Ciências Sociais, 2005, 37-63.
- Williams, S.** "Child Workers in Portugal," London: Anti-Slavery International, 1992.

Tables and Figures

TABLE 1
Schooling in Portugal, 1864-2001

| | Gross enrolment rate | | | | | Pupil-teacher ratio | | Average school years | |
|------|----------------------|-----------|-----------|-------------|----------|---------------------|------------|----------------------------------|--------------|
| | 1-4 grade | 5-6 grade | 7-9 grade | 10-12 grade | Tertiary | Primary | Secondary | School age children [†] | Labour force |
| 1864 | *28% | | | | | | | | |
| 1878 | *48% | | | | | | | | |
| 1890 | *54% | **1% | | | | 1888: *58 | 1892: **16 | | |
| 1900 | *47% | **1% | | | 0% | | **17 | | |
| 1911 | *49% | **2% | | | 0% | | **22 | 2.1 | |
| 1920 | *54% | **2% | | | 1% | | **17 | 2.3 | |
| 1930 | *69% | **3% | | | 1% | *45 | **21 | 2.8 | |
| 1940 | 85% | **4%-5% | | | 1% | 1939: 44 | | 3.8 | 0.9 |
| 1950 | 99% | **6%-7% | | | ***2% | 43 | | 4.7 | 1 |
| 1960 | 130% | 23% | 22% | 3% | ***3% | 34 | 20 | 7.0 | 1.4 |
| 1970 | 137% | 60% | 38% | 6% | ***8% | 31 | 19 | 9.7 | 2.1 |
| 1981 | 138% | 94% | 60% | 34% | ***11% | 22 | 13 | 12.7 | 3.2 |
| 1991 | 127% | 120% | 94% | 68% | ***23% | 16 | 12 | 15.9 | 4.3 |
| 2001 | 125% | 121% | 119% | 105% | ***52% | 14 | 10 | | |

Source: Authors' calculations based on Mitchell (2007) and Lains (2003) for figures before 1960 and Pordata and GIASE (2006) for data after 1960. Information on average school years is from Valério (2001).

Note: Primary school includes 1st to 4th grade. Secondary school includes 5th to 12th grade. * Data for primary schools is restricted to public schools. ** Data for secondary schools is restricted to public schools until 1955. *** After 1949, students at Technical High schools are included in tertiary Education. † The calculations are based on gross enrolment rates in primary and secondary schooling and assumes that students fulfil the level enrolled (i.e. each student enrolled in primary school completes 4 years) and, therefore, should be viewed as an upper limit.

TABLE 2
Working age and compulsory schooling laws

| | Minimum working age | Compulsory schooling |
|------|---------------------|--------------------------|
| | <i>in years</i> | <i>in years</i> |
| 1890 | 1891:12 | 5 |
| 1900 | 12 | 5 |
| 1911 | 12 | 1911:3 |
| 1920 | 12 | 1919:5 |
| 1930 | 12 | 1929:3 |
| 1940 | 12 | 3 |
| 1950 | 12 | 1956:4 (boys) |
| 1960 | 1969:14 | 1960:4 (girls) 1964:6 |
| 1970 | 14 | 6 |
| 1981 | 14 | 6 |
| 1991 | 1991:16 | 1986:9* |
| 2001 | 16 | 1995:9 (effective*) |

Source: Williams (1992); Campinho (1995).

Note: * The law was approved in 1986 and the batch entering school in that year was the first to have 9 years of compulsory schooling. By 1995, when this cohort reached 9th grade, the law was universally applicable.

TABLE 3
Child and youth labour, 1890-2001

| Years | Employed (paid work) | | Occupied (unpaid work) | | Activity | | Unempl. rate | |
|--------|-------------------------|-------|---------------------------|-------|----------|-------|--------------|-------|
| | 10-14 | 15-19 | 10-14 | 15-19 | 10-14 | 15-19 | 10-14 | 15-19 |
| 1890† | 28 % - 60 % | | | | | | | |
| 1900† | 22 % - 48 % | | | | | | | |
| 1911† | 21 % - 45 % | | | | | | | |
| 1920 | | | | | | | | |
| 1930 | | | | | | | | |
| 1940 | 15 % | 43 % | 32% | 38% | 46 % | 82 % | 5 % | |
| 1950‡ | 22 % | 45 % | 59% | 47% | 81 % | 91 % | 2 % | 4 % |
| 1960 | 15 % | 43 % | 28% | 41% | 43 % | 84 % | 10 % | 9 % |
| 1970* | 11 % | 55 % | 5% | 19% | 16 % | 74 % | 18 % | 10 % |
| 1981‡ | 9 % | 40 % | 8% | 14% | 17 % | 54 % | 42 % | 21 % |
| 1991‡b | 6 % | 36 % | 3% | 4% | 9 % | 40 % | 17 % | 11 % |
| 2001‡b | 0 % | 22 % | n.a. | 1% | 4 % | 23 % | | 18 % |

Source: Authors' calculations based on census data and a 2001 household survey (for the 10-14 age group in 2001). **Notes:** 1. The incidence of child labour is defined as the percentage of children/youth who are employed or occupied in the respective age group. The total is the sum of those who are employed, that is, engaged in paid work and those who are occupied, that is, engaged in unpaid work, including economic and domestic activities. Unemployment rate is the share of unemployed over the active children and youngsters. 2. † Between 1890 and 1911, disaggregation into two age groups is not possible. We provide a lower and upper limit for the incidence of child labour. The upper limit is calculated by dividing the working population under 20 by the population in the age group 10-19. The lower limit is calculated dividing the working population under 20 by the total population in the age group 0-19. As children are more likely to work as they age, it is likely that the 10-19 employment rate is closer to the upper limit. 3. ‡ Figures are for the age group 12-14 and not 10-14. * In 1970, only 20 % of the information collected was analysed. (b) In 1991 and 2001, the employed category includes paid and unpaid economic work while occupied refers to domestic work. 4. Methodological changes in measuring employment occurred over the years: (i) The concept of employment was sharpened during the 1890-1911 period through the adoption of the concept of main employment (1900) and a clearer conceptualization of employment (1911) (Carrilho, 1996). (ii) From 1950 and onwards, the introduction of a close-ended question reduced the subjectivity of self-reported labour status (Torres, 2009).

TABLE 4
Sectoral distribution of child and youth labour in Portugal, 1890-1960

| | Boys | | Girls | | Total | | Labour incidence | | | % in labour force | | |
|--------------------|--------|--------|--------|-------|--------|--------|------------------|-------|-------|-------------------|-------|-------|
| | 10-14 | 15-19 | 10-14 | 15-19 | 10-14 | 15-19 | 10-14 | 15-19 | 10-19 | 10-14 | 15-19 | 10-19 |
| Agriculture | | | | | | | | | | | | |
| 1890 | 244729 | | 115347 | | 360076 | | | | 37% | | | 23% |
| 1900 | 268714 | | 83433 | | 352147 | | | | 32% | | | 23% |
| 1911 | 257960 | | 56209 | | 314169 | | | | 26% | | | 21% |
| | | | | | | | | | | | | |
| 1940 | 44522 | 112634 | 10985 | 23184 | 55507 | 135818 | 7% | 18% | 12% | 4% | 11% | 15% |
| 1950 | 65587 | 167034 | 14002 | 38614 | 79589 | 203021 | 10% | 25% | 18% | 5% | 13% | 18% |
| 1960 | 94611 | 152566 | 6407 | 13162 | 101018 | 203022 | 12% | 27% | 17% | 7% | 14% | 18% |
| | | | | | | | | | | | | |
| Industry | | | | | | | | | | | | |
| 1890 | 57333 | | 34791 | | 92124 | | | | 9% | | | 21% |
| 1900 | 67595 | | 37951 | | 105546 | | | | 10% | | | 23% |
| 1911 | 85546 | | 39902 | | 125448 | | | | 10% | | | 23% |
| | | | | | | | | | | | | |
| 1940 | 10184 | 41230 | 5916 | 23886 | 16100 | 65116 | 2% | 9% | 5% | 4% | 15% | 19% |
| 1950 | 12747 | 60016 | 7538 | 35650 | 20285 | 95666 | 3% | 12% | 7% | 3% | 16% | 20% |
| 1960 | 18266 | 65954 | 9819 | 34769 | 28085 | 100723 | 3% | 13% | 8% | 4% | 15% | 19% |
| | | | | | | | | | | | | |
| Others | | | | | | | | | | | | |
| 1890 | 74469 | | 68842 | | 143311 | | | | 15% | | | 24% |
| 1900 | 43581 | | 19587 | | 63168 | | | | 6% | | | 14% |
| 1911 | 84338 | | 21714 | | 106052 | | | | 9% | | | 19% |
| | | | | | | | | | | | | |
| 1940 | 27221 | 71035 | 22704 | 52227 | 49925 | 123262 | 6% | 16% | 11% | 5% | 12% | 17% |
| 1950 | 17765 | 66739 | 21856 | 63183 | 39621 | 129922 | 5% | 16% | 11% | 3% | 11% | 15% |
| 1960 | 20468 | 64756 | 18812 | 54840 | 39280 | 119596 | 5% | 16% | 10% | 4% | 12% | 15% |

Source: Authors' calculations based on *Censii*. **Notes:** The figures are restricted to those engaged in paid work/employed. Labour incidence is the distribution of children in various sectors and is obtained by dividing the number of persons working in a specific age group by the total number of persons in that age group. Percent in labour force is calculated by dividing the number of persons working in a specific age group by the total number of persons in a sector.

TABLE 5
Technology in agriculture

| | (1) | (2) | (3) | (4) | (5) | (1)/(5) | (2)/(5) | (3)/(5) | (4)/(5) |
|------|-------------------|----------|--------------------|----------|---------------|--------------|---------------------------|--------------------|-----------|
| | Agricultural land | Thresher | Harvester-thresher | Tractors | Agric workers | Land /worker | Thresher | Harvester-thresher | Tractors |
| | ha | 000's | 000's | 000's | 000's | | Machines per 1000 workers | | |
| 1875 | 1886 | | | | | | | | |
| 1902 | 3111 | | | | 1497.4 | 2.1 | | | |
| 1920 | 3229 | | | | 1329.6 | 2.4 | | | |
| 1929 | 3283 | | | | 1330.1 | 2.5 | | | |
| 1934 | 3352 | | | | 1370.8 | 2.4 | | | |
| 1939 | 3380 | | | | 1417.8 | 2.4 | | | |
| 1950 | 4762 | 1951: 3 | | 1951: 3 | 1522.8 | 3.2 | 1951: 2.0 | | 1951: 0 |
| 1955 | | 4 | | 4 | 1455.3 | | 2.7 | | 3 |
| 1960 | | 5 | 1 | 10 | 1396.9 | | 3.6 | 1962: 0.8 | 7 |
| 1965 | | 6 | 1 | 16 | 1203.5 | | 5.0 | 0.8 | 13 |
| 1970 | | 6 | 3 | 28 | 965.6 | | 6.2 | 3.1 | 29 |
| 1975 | | 6 | 4 | 44 | 863.1 | | 7.0 | 4.6 | 51 |
| 1980 | 5182 | 6 | 5 | 73 | 712.3 | 7.0 | 8.4 | 7.0 | 103 |
| 1985 | | | | 79 | 595.0 | | | | 128 |
| 1990 | 3978 | | 1989: 4 | 109 | 536.7 | 1991: 7.6 | | 1989: 7.2 | 1989: 197 |
| 1995 | 3925 | | 4 | 121 | 1993: 518.2 | | | 1993: 7.7 | 1993: 230 |

Source: Authors' calculations based on E. Nunes in Valério (2001) and A Nunes in Valério (2001).

TABLE 6
Growth of factors and GDP, 1910-1990 (annual growth rates, %)

| Period | Labour | Human Capital | Capital | GDP |
|-----------|--------|---------------|---------|------|
| 1910-1934 | 1.00 | 2.08 | 1.25 | 2.17 |
| 1934-1947 | 1.31 | 1.14 | 3.89 | 2.09 |
| 1947-1973 | 0.70 | 2.47 | 7.73 | 5.17 |
| 1973-1990 | 0.05 | 4.83 | 5.21 | 3.92 |

Source: Lains (2003).

TABLE 7
Growth accounting for Portugal: sources of growth and output growth, 1910-1990 (%)

| Period | Labour | Human Capital | Capital | TFP | GDP |
|-----------|--------|---------------|---------|-------|------|
| 1910-1934 | 0.33 | 0.70 | 0.42 | 0.72 | 2.17 |
| 1934-1947 | 0.44 | 0.38 | 1.30 | -0.02 | 2.09 |
| 1947-1973 | 0.23 | 0.82 | 2.58 | 1.53 | 5.17 |
| 1973-1990 | 0.02 | 1.61 | 1.74 | 0.56 | 3.92 |

Source: Lains (2003).

TABLE 8
Wage ratio by gender (male/female)

| | Agriculture | | Industry | | | | | Fertility | Female labour force participation |
|----------|---------------|---------|------------|---------|----------|---------|----------------------|-----------|-----------------------------------|
| Sector | | | Shoe | Paper | Plastics | Rubber | Sugar | | |
| Position | General Works | Harvest | Shoemakers | Workers | Workers | Workers | Refiners vs. workers | | |
| 1920 | | 2.0 | 2.2 (1921) | | | | | | |
| 1931 | 1.9 | 1.8 | | | | | | | |
| 1941 | 1.9 | 1.7 | | | | | | | 24 % |
| 1950 | 1.8 | 1.7 | | | | | | 3.0 | |
| 1960 | 1.8 | 1.7 | | | | | | 3.1 | 21 % |
| 1968 | 1.9 | | 1.9 | 2.0 | 2.1 | 2.1 | 1.4 | | |
| 1969 | 1.9 | | | | | | | | |
| 1970 | 1.9 | 1.7 | | | | | | 2.8 | 28 % |
| 1971 | 1.7 | 1.7 | 1.6 | 1.7 | 2.1 | 1.7 | 1.8 | | |
| 1972 | 1.7 | 1.6 | 1.5 | 1.8 | 2.0 | 1.8 | 1.8 | | |
| 1973 | 1.7 | 1.7 | 1.5 | 1.7 | 2.1 | 1.8 | 1.8 | | |
| 1974 | 1.6 | 1.5 | 1.2 | 1.3 | 1.5 | 1.5 | 1.6 | | |
| 1975 | 1.5 | 1.5 | 1.2 | 1.2 | 1.2 | 1.4 | 1.1 | | |
| 1976 | 1.5 | | 1.1 | 1.2 | 1.2 | 1.4 | 1.0 | | |
| 1977 | 1.4 | | 1.1 | 1.3 | 1.2 | 1.4 | 1.0 | | |
| 1978 | 1.5 | | 1.1 | 1.1 | 1.2 | 1.3 | 1.0 | | |
| 1979 | 1.5 | | 1.1 | 1.1 | 1.1 | 1.2 | 1.0 | | |
| 1980 | 1.6 | | 1.1 | 1.1 | 1.2 | 1.3 | 0.9 | 2.0 | |
| 1981 | 1.5 | | 1.1 | 1.1 | 1.1 | 1.2 | 0.9 | | 41 % |
| 1982 | 1.4 | | 1.2 | 1.1 | 1.1 | 1.3 | 0.9 | | |
| 1983 | 1.5 | | 1.1 | 1.1 | 1.1 | 1.3 | 0.9 | | |
| 1984 | 1.4 | | 1.1 | 1.2 | 1.2 | 1.2 | 1.0 | | |
| 1985 | | | 1.1 | 1.2 | 1.2 | 1.1 | 1.0 | 1.6 | |
| 1986 | | | 1.1 | 1.2 | 1.1 | 1.2 | 1.0 | | |
| 1987 | | | 1.1 | 1.3 | 1.1 | 1.2 | 1.1 | | |
| 1988 | | | 1.1 | 1.3 | 1.1 | 1.2 | 1.1 | | |
| 1989 | | | 1.1 | 1.4 | 1.1 | 1.2 | 1.1 | | |
| 1990 | | | 1.1 | 1.5 | 1.1 | 1.2 | 1.1 | 1.5 | 1991: 49 % |
| 1995 | | | | | | | | 1.5 | |
| 2000 | | | | | | | | 1.4 | |

Source: Authors' calculations based on Yearly Statistics, INE. Fertility data are from United Nations Population Division and data on female labour force participation from Census and Pordata (generic database on Portugal: www.pordata.pt). **Notes:** Wage ratios in agriculture and industry are unweighted district averages for continental Portugal.

TABLE 9
Evolution of industrial exports and employment according to technology, 1988-2006

| | (1) | (2) | (1)-(2) |
|--|------|------|-----------|
| | 1988 | 2006 | Diff p.p. |
| Share in total exports (%) | | | |
| High-technology manufactures | 5.7 | 11.0 | 5.3 |
| Medium-high technology manufactures | 18.2 | 29.0 | 10.7 |
| Medium-low technology manufactures | 11.5 | 20.9 | 9.4 |
| Low technology manufactures | 62.0 | 32.8 | -29.2 |
| Share in employment in manufactures (%) | | | |
| High-technologies manufactures | 2.9 | 3.7 | 0.8 |
| Medium-high technology manufactures | 10.5 | 13.9 | 3.4 |
| Medium-low technology manufactures | 21.9 | 22.5 | 0.6 |
| Low technology manufactures | 64.7 | 59.9 | -4.8 |

Source: Alexandre et al. (2009). **Note:** Level of technology is based on OECD technology level classification which ranks industries according to their R&D expenditures.

TABLE 10
Main activity (%) by age group, 1976-1987

| | Employed | | | | Total active | | | | Students | | |
|------|----------|-------|-------|-------|--------------|-------|-------|-------|----------|-------|-------|
| | 10-14 | 12-14 | 12-16 | 15-19 | 10-14 | 12-14 | 12-16 | 15-19 | 10-14 | 12-14 | 15-19 |
| 1976 | 9 | | | 52 | 15 | | | 62 | 77 | | 31 |
| 1977 | 8 | | | 48 | 14 | | | 61 | 76 | | 31 |
| 1978 | 9 | | | 45 | 15 | | | 59 | 76 | | 31 |
| 1979 | 9 | | | 47 | 14 | | | 60 | 81 | | 29 |
| 1980 | 8 | 10* | | 50 | 11 | 21* | | 68 | 78 | 74* | 30 |
| 1981 | 8 | | | 50 | 12 | | | 66 | 88 | | 31 |
| 1982 | 9 | | | 50 | 12 | | | 64 | 89 | | 33 |
| 1983 | | 13 | | | | 19 | | | | | |
| 1984 | | 11 | | | | 16 | | | | | |
| 1985 | | 11 | | | | 15 | | | | | |
| 1986 | | 10 | | | | 13 | | | | | |
| 1987 | | 10 | | | | 12 | | | | | |
| 1988 | | 9 | | | | | | | | | |
| 1989 | | 8 | | | | | | | | | |
| 1990 | | 8 | | | | | | | | | |
| 1991 | | 7 | | 36* | | 10* | | 45* | | 86* | 49* |
| 1992 | | | 15 | | | | 17 | | | | |
| 1993 | | | 14 | | | | 16 | | | | |

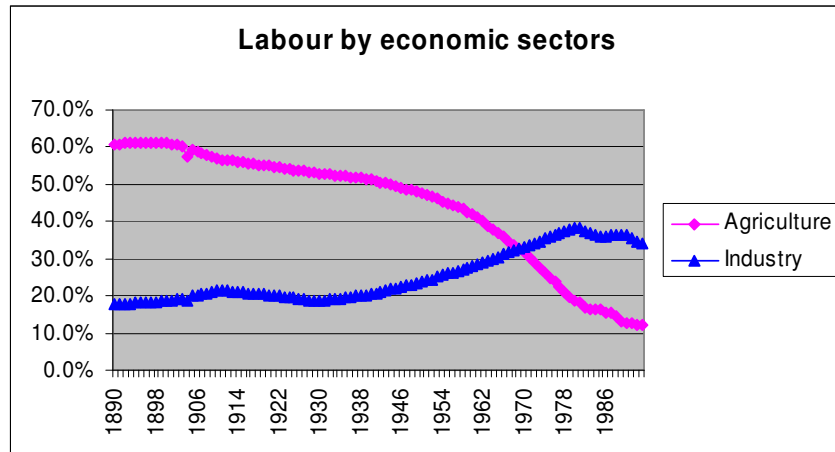
Source: Labours surveys, INE **Notes:** Child labour is defined in terms of incidence in the respective age group. The 1976-82 series is based on a non-rotating panel data sample of around 13,300 households and the data corresponds to the second quarter of each year only in continental Portugal. The 1983-91 series is based on a rotating panel data sample of 36,200 households from Portugal. The 1992-93 series was based on a rotating panel data sample of around 22,000 households and the data correspond to the fourth quarter of the year. For more details on the series see Torres (2009). *From Census.

TABLE 11
Child Work in Portugal, 1998-2001

| | 1998 | | 2001 | |
|---------------------------------------|---------------|--------------|--------------|-------------|
| | Children | Incidence | Children | Incidence |
| Economic work | 33792 | 3,13 | 44003 | 3,70 |
| Economic work – Outside the household | 7,342 | 0,68 | 8689 | 0,73 |
| Economic work – Within the household | 26450 | 2,45 | 35314 | 2,97 |
| Both economic and domestic work | 9285 | 0,86 | 5130 | 0,43 |
| Domestic work – Within the household | 83037 | 7,68 | 48165 | 4,05 |
| Total | 126114 | 11,67 | 97298 | 8,18 |

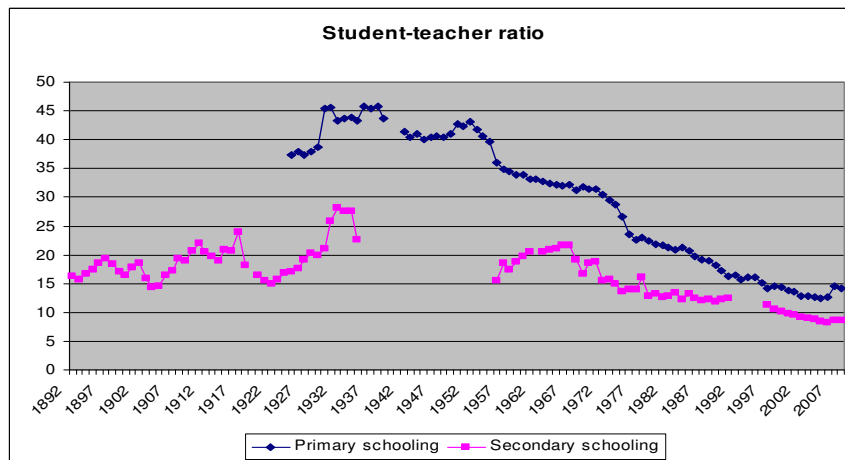
Notes: Estimates of the absolute number of working children working are based on weighting the sample data to obtain population figures; Incidence is defined as the percentage of all children in the age group 6 to 15 who report at least one hour of work per week.

FIGURE 1



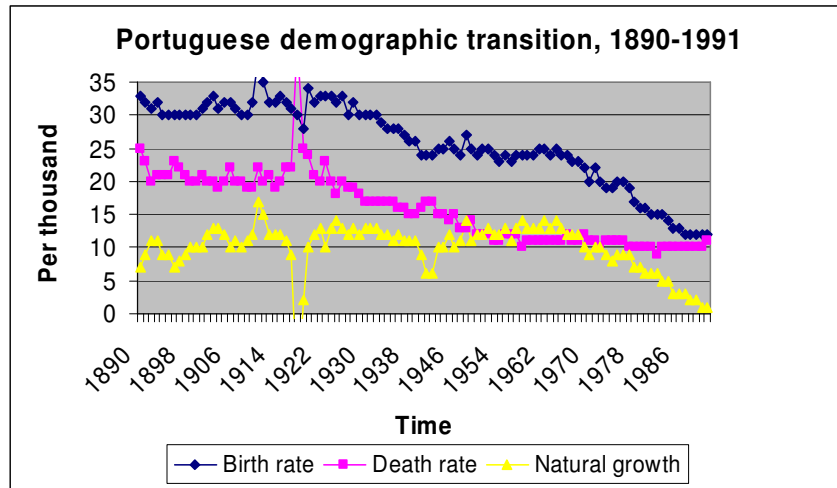
Note: Share of employment in agriculture and industry.

FIGURE 2



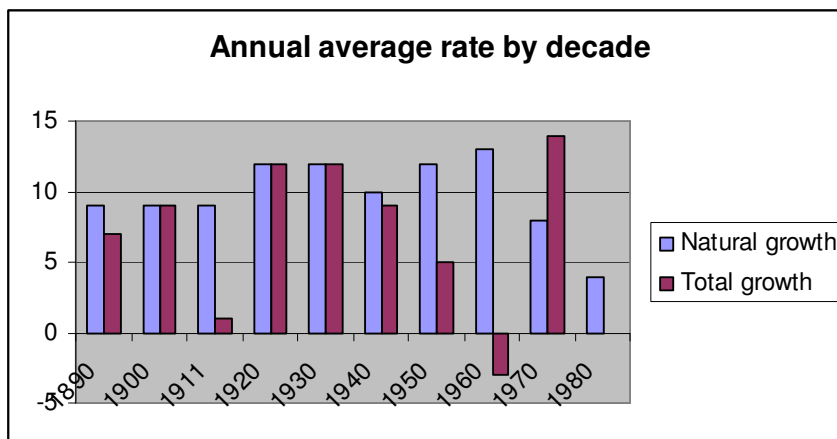
Sources: Authors' calculations based on: upto 1961, data for primary schools is from Mitchell (2007) and from Pordata for the remaining years. Upto 1972, data for secondary school is from Mitchell (2007) and from Pordata for the remaining years. **Notes:** Primary school includes 1st to 4th grade. Secondary school includes 7th to 12th grade. Data for primary schooling is restricted to public schools upto 1939. Data for secondary schooling is restricted to public schools upto 1955.

FIGURE 3



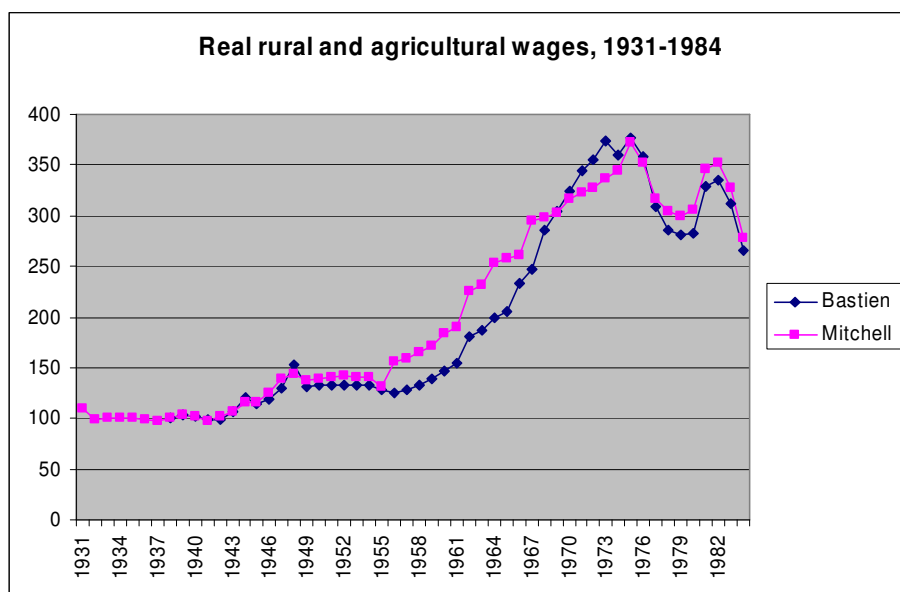
Source: Authors calculations based on Baganha and Marques in Valério (2001).

FIGURE 4



Source: Authors calculations based on Baganha and Marques in Valério (2001).

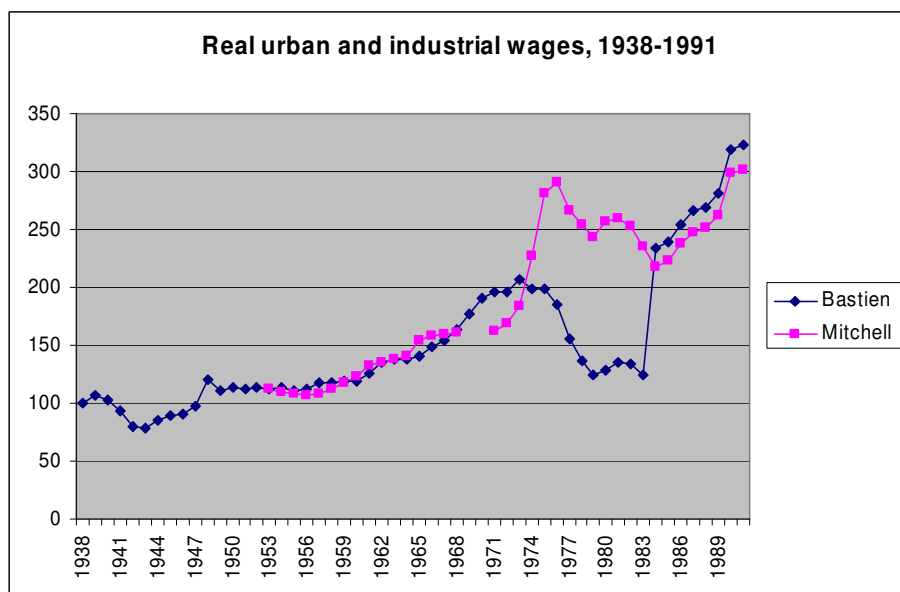
FIGURE 5



Source: Authors' calculations based on Bastien in Valério (2001), Mitchell (2007).

Note: Real wages were obtained by deflating the wage indices by a price index.

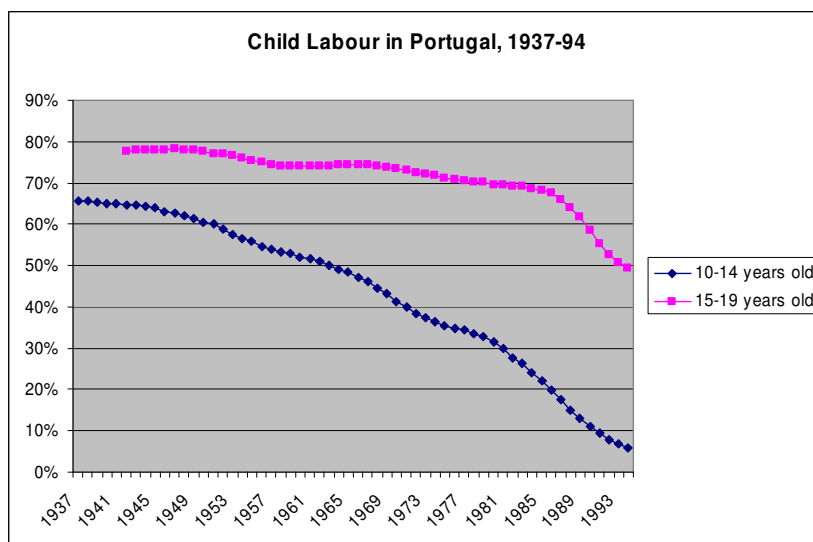
FIGURE 6



Source: Authors' calculations based on Bastien in Valério (2001); Mitchell (2007).

Notes: Real wages were obtained by deflating the wage indexes by a price index.

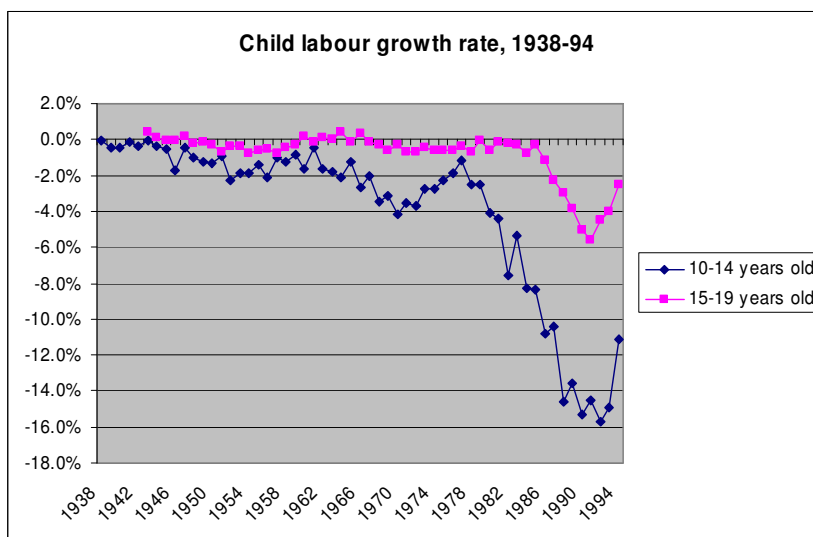
FIGURE 7a



Source: Authors' calculations based on 14 trimester labour surveys from 2001 to 2004.

Notes: Based on the response to the question, "When did you start working for the first time", work participation rates for the age group 10-14 and 15-19 are computed.

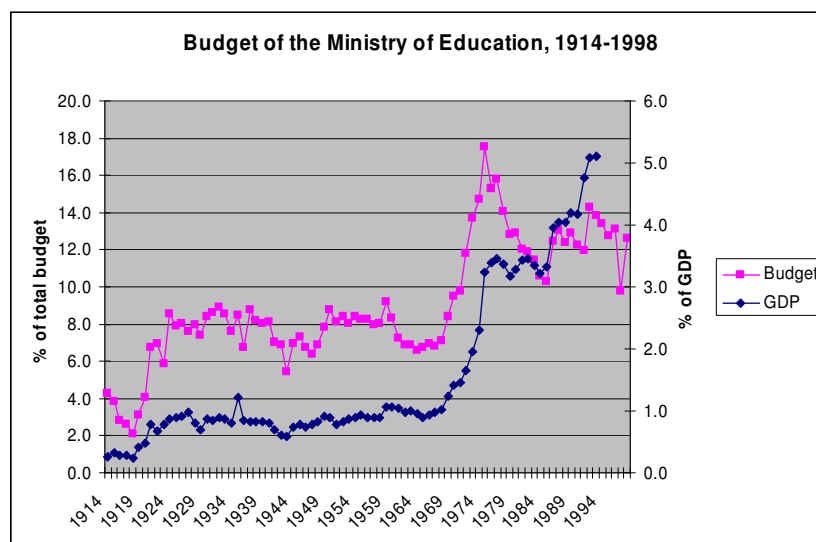
FIGURE 7b



Source: Authors' calculations based on 14 trimester labour surveys from 2001 to 2004.

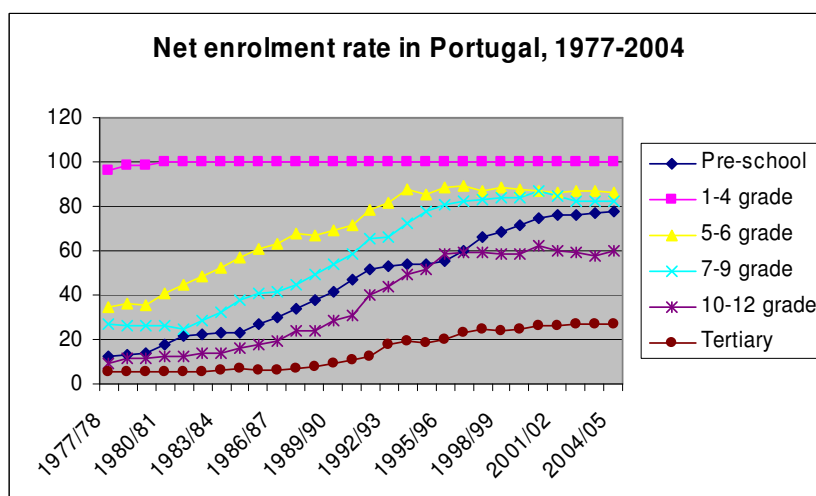
Notes: Annual growth rates based on figure 7a.

FIGURE 8



Source: N. Valério (505) and E. Mata (670) in Valério (2001); Mitchell (2007).

FIGURE 9



Source: GIASE, Education Ministry.

Notes: Pre-school refers to three years prior to the start of official schooling (3-5 years old); primary school refers to the first four schooling years (6-9 years old); preparatory school is the fifth and sixth grade (10-11 years old); lower secondary includes seventh to ninth grade (12-14 years old); upper secondary includes tenth to twelfth grade (15-17 years old); tertiary education.

FIGURE 10



Source: Labour inspectorate.

Note: The authors thank Paula Gaspar for assistance.

TABLE A1
Activity rate, 1890-1911

| Census | Age groups | | |
|--------|------------|-------|----------|
| | Below 20 | 20-39 | All ages |
| 1890 | 60 % | 66 % | 52 % |
| 1900 | 48 % | 61 % | 45 % |
| 1911 | 45 % | 59 % | 43 % |

TABLE A2
Social benefit laws in Europe

| Country | Family allowance | Other legislation | | | | |
|----------------|------------------|-------------------|------------|-----------|----------|--------------|
| | | Retirement | Disability | Maternity | Sickness | Unemployment |
| France | 1932 | 1910 | 1910 | 1930 | 1930 | 1905 |
| Germany | 1935 | 1883 | 1883 | 1889 | 1889 | 1927 |
| Italy | 1937 | 1919 | 1919 | 1929 | 1943 | 1919 |
| Spain | 1938 | 1919 | 1919 | 1929 | 1942 | 1919 |
| Portugal | 1942 | 1935 | 1935 | 1962 | 1935 | 1975 |
| Ireland | 1944 | 1908 | 1911 | 1911 | 1911 | 1911 |
| United Kingdom | 1945 | 1925 | 1911 | 1911 | 1911 | 1911 |
| Sweden | 1947 | 1891 | 1891 | 1913 | 1913 | 1934 |
| Denmark | 1952 | 1891 | 1921 | 1892 | 1892 | 1907 |

Source: Pereirinha, Arcanjo and Carolo (2009).

TABLE A3
Child main occupation, 1960-2001

| | 1960 | 1970 | 1980 | 1991 | 2001 |
|------------------------|---------|------|---------|---------|------|
| <14 years | (10-14) | | (12-14) | (12-14) | |
| Total Active | 45% | | 23% | 10% | |
| Urban | 28% | | 10% | | |
| Rural | 49% | | 27% | | |
| Students | 48% | | 74% | 86% | |
| Urban | 66% | | 88% | | |
| Rural | 44% | | 70% | | |
| Neither | 8% | | 3% | 5% | |
| 15-19 years old | | | | | |
| Total Active | 88% | | 65% | 45% | 28% |
| Urban | 71% | | 43% | | |
| Rural | 93% | | 73% | | |
| Students | 11% | | 33% | 49% | 66% |
| Urban | 28% | | 55% | | |
| Rural | 7% | | 25% | | |
| Neither | 1% | | 2% | 6% | 5% |

Source: Authors' calculations based on Censii. **Note:** Exclusive categories for main occupation. The 1960 data pertain to the age group 10-14 years old and the 1980 figures refer to 12-14 years old. Therefore, the latter estimates provide a lower-bound for the changes in child labour and schooling.

TABLE A4
Sensitivity analysis to different data sources, 1976-82

| (15-19) | Employed | | | Total active | | | Students | | |
|---------|----------|-----|-----|--------------|-----|-----|----------|-----|-----|
| | (1) | (2) | (3) | (1) | (2) | (3) | (1) | (2) | (3) |
| 1976 | 52 | | | 62 | | | 31 | | |
| 1977 | 48 | 49 | | 61 | 61 | | 31 | 31 | |
| 1978 | 45 | 47 | | 59 | 60 | | 31 | 30 | |
| 1979 | 47 | 47 | | 60 | 62 | | 29 | 30 | |
| 1980 | 50 | 49 | | 68 | 65 | | 30 | 30 | |
| 1981 | 50 | 50 | 40 | 66 | 66 | 54 | 31 | 31 | 33 |
| 1982 | 50 | | | 64 | | | 33 | | |
| Source | LS | LS | C | LS | LS | C | LS | LS | C |

Sources: Labour Surveys and Censii, INE

Notes: Figures are in percentages. We can only use the age group 15-19 for comparisons. (1) Labour survey data (2) Three year average of labour survey data (3) Census data.