



Contents lists available at ScienceDirect

Explorations in Economic History

journal homepage: www.elsevier.com/locate/eehTop incomes and earnings in Portugal 1936–2005 [☆]

Facundo Alvaredo

CONICET-UTDT, Miñones 2177, C1428ATG Buenos Aires, Argentina

Department of Economics, University of Oxford, Manor Road Building, Manor Road, Oxford, OX1 3UQ, UK

ARTICLE INFO

Article history:

Received 24 July 2008

Available online 7 May 2009

Keywords:

Top incomes

Income concentration

Portugal

Top earnings

Income tax

ABSTRACT

This paper analyzes income and earnings concentration in Portugal from a long-run perspective using personal income and wage tax statistics. The results suggest that income concentration was much higher during the 1930s and early 1940s than it is today. Top income shares estimated from reported incomes deteriorated during the Second World War, even if Portugal did not take active participation in the conflict. However, the magnitude of the drop was less important than in other European countries. The level of concentration between 1950 and 1970 remained relatively high compared to countries such as Spain, France, UK or the United States. The decrease in income concentration, started very moderately at the end of the 1960s and which accelerated after the revolution of 1974, began to be reversed during the first half of the 1980s. During the last 15 years top income shares have increased steadily. The rise in wage concentration contributed to this process in a significant way. The evidence since 1989 suggests that the level of marginal tax rate at the top has not been a primary determinant of the level of top reported incomes. Marginal rates have stayed constant in a context of growing top shares.

© 2009 Elsevier Inc. All rights reserved.

1. Introduction

This paper analyzes the evolution of income and wage concentration in Portugal between 1936 and 2005 using tax statistics and administrative records on individual earnings. This study is strictly linked to the studies recently gathered in [Atkinson and Piketty \(2007\)](#), where series for shares of income accruing to upper income groups have been constructed for the United States, Ireland, the United Kingdom, Canada, New Zealand, Australia, France, Germany, the Netherlands, and Switzerland.¹ Research has also been done on the experiences of Argentina, Singapore, India, Japan, Sweden, Finland, Norway, China and Indonesia.² In particular, together with the cases of Spain ([Alvaredo and Saez, 2009](#)) and Italy ([Alvaredo and Pisano, 2009](#)), this paper completes the study of top income shares in the three Southern European countries for which long-term tax data are available. The case of Portugal is interesting and worth studying on several grounds.

First, Portugal has undergone important changes in the political arena since the beginning of the twentieth century. After the decline and final collapse of the constitutional monarchy, the First Republic was established in 1910. The parliamentary regime was turbulent and unstable, with eight presidents, thirty-eight prime ministers and a brief monarchy restoration

[☆] I thank Jose Albuquerque, Tony Atkinson, Santiago Budría, Ana Rute Cardoso, Manoel João, Pedro Lains, Alfredo Pereira, Thomas Piketty, Leandro Prados de la Escosura, Carlos Farinha Rodrigues, Emmanuel Saez and two anonymous referees for comments and discussions. Special acknowledgments go to António Manuel Sá Santos, the staff of the Centro de Estudos Fiscais at the Direcção-Geral dos Impostos and the Instituto Nacional de Estatística of Portugal.

E-mail address: alvaredo@pse.ens.fr

¹ See [Piketty and Saez \(2003\)](#), [Piketty \(2001, 2003\)](#), [Nolan \(2007\)](#), [Atkinson \(2005\)](#), [Saez and Veall \(2005\)](#), [Atkinson and Leigh \(2007a,b\)](#), [Dell \(2007\)](#), [Salverda and Atkinson \(2007\)](#), [Dell et al. \(2007\)](#), and the versions included in [Atkinson and Piketty \(2007\)](#).

² [Alvaredo \(2007\)](#), [Atkinson \(2009\)](#), [Banerjee and Piketty \(2005\)](#), [Moriguchi and Saez \(2008\)](#), [Roine and Waldenström \(2008\)](#), [Jäntti et al. \(2009\)](#), [Aaberge and Atkinson \(2009\)](#), [Piketty and Qian \(2009\)](#), [Leigh and van der Eng \(2009\)](#).

over a seventeen-year period.³ Participation in the First World War on the Entente side, large government deficits, rapid monetary expansion and high inflation dominated the scenario. The First Republic was ended in 1926 by a military coup, which installed an authoritarian republic followed by 7 years of institutional change. There was no apocalyptic civil war as in Spain and the ultimate leader of the new regime was not a general, but a university professor, António Salazar, who believed that neither English parliamentarism nor English democracy were adaptable to every European country.⁴ The Second Republic evolved to a right-wing dictatorship under the form of a single party corporative regime. In the absence of the clear polarization of the Spanish society, the authoritarian system developed in a framework of institutional continuity. In 1928 Salazar was appointed minister of finance, and in 1933 he became prime minister, remaining in power until 1968. From the early 1930s to the end of the 1950s, Portugal followed a policy of relative isolationism under a corporatist socio-economic system (extensive state regulation and private ownership of means of production). In the late 1950s, the regime shifted towards a moderately outward looking policy, which inaugurated a period of rapid growth until the beginning of the 1970s. As Spain, Portugal remained neutral during the Second World War but unlike Spain, it was accepted into the Marshall plan in 1947 and the NATO in 1949. In 1974 a left-wing military coup (known as the Carnation Revolution) put an end to the dictatorship. The revolutionary government granted independence to the Portuguese colonies in Africa and Asia, set out on a course of land expropriation and sweeping nationalization (banks, basic industries, utilities, insurance companies, newspapers) and followed a policy of freezing prices and rising wages. The process has been described as a successful challenge to capitalist property.⁵ In 1975 the country held its first free multi-party elections since 1926. By the beginning of the 1980s most of the reforms of the revolutionary period started to be reversed, one of the motivating factors being Portugal joining the European Communities, which happened in 1986. The country adopted the Euro in 2002. The study of top incomes in Portugal provides new insights on the relationships between the political regimes and the evolution of income concentration.

Second, from the economic point of view, Portugal underwent dramatic changes over the last hundred years. During the first half of the twentieth century, the country was an agricultural-based economy in which wine accounted for one-third of total agrarian output.⁶ In 1950, Portugal GDP per capita was 15% lower than in Spain, 60% lower than in France and 70% lower than in the United Kingdom.⁷ Between the 1950s and the beginning of the 1970s the government shifted towards mild liberalization policies and imposed a strategy aimed at economic development and structural change; economic growth resumed at a quicker pace. However, the growth rates of per capita income in those years should be read with caution in the light of massive emigration flows between 1950 and the early 1980s.⁸ In the 1970s growth came to a halt, affected by the revolution of 1974, the nationalization spree and the less favorable international conditions. Since the mid-1980s, the privatization of major financial and industrial conglomerates and the fiscal and monetary policies followed to join the European Union started a period of considerable modernization and growth. Today, Portugal's GDP per capita is about 30–35% lower than the GDP per capita of the largest western European economies such as France, Germany or the United Kingdom, and about 20% lower than the GDP per capita in Spain.⁹ As in the case of Spain, it is important to analyze income concentration during the growth and stagnation years in order to re-assess the link between economic development and income distribution.

Third, Portugal provides new evidence on the relationship between economic integration and income concentration. As mentioned above, the country joined the European Union in 1986, after 7 years of gradual reforms for the dismantling of barriers to trade, capital and labor mobility.

Finally, there are no studies on the evolution of inequality in Portugal from a long-run historical perspective. Therefore, this study can be seen as the first serious attempt at compiling systematic time series of income concentration using primarily individual tax statistics, which have been completely ignored by previous studies.¹⁰ A number of researchers have analyzed the evolution of income, earnings and expenditure inequality during the *last thirty years* in Portugal based on two types of sources: survey data and administrative records on wages and salaries. In the following paragraphs I summarize the main findings.¹¹

³ For an account of the history of Portugal until the late 1960s, see Payne (1972). See also Robinson (1979) and Gallaher (1983).

⁴ Salazar (1939).

⁵ Bermeo (1997).

⁶ Lains (2003a,b) argue that, despite its backwardness, the Portuguese economy had a good performance during the first half of the twentieth century if compared to the previous 50 years. The economy expanded slowly under favorable external conditions before 1913, and expanded more rapidly when international economic conditions were less favorable after the First World War. Nevertheless, improvements were poor by western European standards. See also Lains (2003c).

⁷ Comparative data from Maddison (2001, 2003).

⁸ The debate around the dynamic or stagnating features of the *Estado Novo* economic policy can be seen in Baklanoff (1992), Hudson (1989), ILO (1979) and Wheeler (1990).

⁹ For an account of the economic evolution of Portugal during the twentieth century, see Lains (1995), Lopes (1994, 1996), Nunes et al. (1989) and Valério (2001).

¹⁰ During the completion of this paper it came to my attention the contemporaneous work by Guilera (2008), which uses tax statistics to study income concentration in Portugal.

¹¹ The first two households' budget surveys were conducted in 1967/1968 and 1973/1974. As it is usually the case, their primary purpose was to collect information on expenditures, required as input to the construction of the consumer price index. As a result, the 1967/1968 survey did not contain information on incomes. The 1973/1974 survey did inquire about incomes. Descriptive results from these first two surveys can be found in Castanheira and Ribeiro (1977), Rodrigues (1988) and Silva (1971). However, the micro-data have not survived. Since the 1980/1981 survey, information has been collected on household incomes, household composition and other socioeconomic characteristics.

Using micro-data from the 1980/1981 and 1990/1991 households' surveys, [Rodrigues \(1993, 1994, 1996\)](#) and [Gouveia and Tavares \(1995\)](#) detect an unambiguous decline in income inequality during the 1980s. In particular, [Rodrigues \(1994\)](#) finds that wages and capital income inequality rose, but their effects were nonetheless offset by the evolution of self-employees' income and pensions. On the contrary, [Gouveia and Tavares \(1995\)](#) argue that the reduction in inequality during the 1980s could have been the result of the trade-earnings argument acting in reverse in Portugal: increased trade with Europe might have reinforced the country's specialization in low-skilled activities and therefore increased wages of unskilled workers. Nevertheless, the returns to education augmented substantially during the years after joining the European Union, as shown in [Machado and Mata \(2001\)](#) and [Hartog et al. \(2001\)](#).¹²

Based on the employees' administrative records that I also use as a data source in this paper, [Cardoso \(1998a\)](#) analyzes the years 1983–1992 and finds that rising inequality characterized the evolution of labor returns over the whole period, the upper part of the earnings distribution playing a major role in shaping both the level and the trend of inequality. One feature stands out: a stretched top, where dispersion increased remarkably. The same trend has been described in [OECD \(1992\)](#) and [Ministério do Emprego \(1992\)](#), which reports a 10% rise in the Gini index for earnings from 1982 to 1989.¹³

Research has also been done on the basis of the European Community Household Panel (ECHP). [Rodrigues \(1999\)](#) compares the 1994/1995 households' survey with the 1995 ECHP. [Budría \(2007\)](#) analyzes in detail the ECHP between 1994 and 2001 and documents a reduction in earnings and income inequality as well as a rise in the concentration of capital income during that period.

The series presented in this paper measure only top income (and wage) concentration and hence are silent about changes in the lower and middle part of the distribution. Therefore, they can very well follow different patterns when compared to global inequality measures such as Gini coefficients or macro-based estimates. Additionally, it is worth remembering that the rich are usually missing from surveys either for sampling reasons or because they refuse to cooperate with the time-consuming task of completing or answering to a long form. This explains the fact that the dynamics of top income shares estimated from tax statistics may not resemble those deriving from survey data. In particular, high-income earners in this study are noticeably richer than those described in [Budría \(2007\)](#), whose results are based on the ECHP.¹⁴

My results show that income concentration was much higher during the 1930s and 1940s than it is today. Top income shares stayed relatively stable between the end of the Second World War and the end of the 1960s, followed by a large drop that began to be reversed at the beginning of the 1980s. Over the last 15 years top income shares have increased steadily, and the rise in wage concentration contributed to the process to a great extent.

The paper is organized as follows. Section 2 describes the data sources and outlines the estimation methods. Section 3 presents and analyzes the evolution of top incomes between 1936 and 2005. Section 4 focuses on earnings concentration. Finally, Section 5 offers a brief conclusion.¹⁵

2. Data and methodological issues

I study top income shares and wage concentration based on three data sources: statistics from the personal income tax, information from schedule taxes on wages and salaries, and micro-data from administrative records on earnings.

2.1. Income

The estimates of top income shares are based on personal income tax return statistics compiled by the bureau of statistics and the tax agency of Portugal from 1936 to 1982 and between 1989 and 2005. Before 1976, because of high exemption levels, only a small fraction of individuals had to file a tax return; consequently I must restrict the analysis to the top 0.1% of the income distribution. From 1976 onwards, I can analyze the top 10%.

Top groups are defined relative to the total number of tax units had everyone been required to file a tax return. The unit to which the tax data relate is the married couple, or single adult, or single minor with income in his or her own right above a given threshold. The reference total for tax units takes this fact into account. Consequently the total number of tax units is defined as the number of all adult males and females (aged 20 and over) less the number of married females.¹⁶ For example,

¹² [Murray and Steedman \(1998\)](#) analyze the evolution of workers' skills in France, Germany, the Netherlands, Portugal, Sweden and the United Kingdom and show that the greatest change in the qualification of the young has taken place in Portugal. [Batista \(2002\)](#) finds, however, that the skill premium in Portugal has fallen since the mid-1990s.

¹³ Other studies on income and earnings inequality in Portugal over the last three decades include [Albuquerque and Gouveia \(1994\)](#), [Budría and Nunes \(2005\)](#), [Budría and Pereira \(2007, 2008\)](#), [Cantó et al. \(2002\)](#), [Cardoso \(1994, 1998b, 1999, 2006\)](#), [Carneiro \(2008\)](#), [Castanheira and Carvalho \(1997\)](#), [Costa \(1994\)](#), [Ferreira \(1992\)](#), [Gouveia and Rodrigues \(2002\)](#), [Hartog et al. \(1999\)](#), [Jimeno et al. \(2000\)](#), [Martins and Pereira \(2004\)](#), [Rodrigues \(2008\)](#), [Rodrigues and Albuquerque \(2000\)](#), [Santos \(1983\)](#), [Teekens \(1990\)](#), [Vieira \(1999\)](#), [Viera et al. \(2006\)](#). [Cardoso and Cunha \(2005\)](#) estimate aggregate wealth owned by Portuguese households between 1980 and 2004; however, the authors do not deal with the distribution of wealth. [Bover et al. \(1998\)](#) study the Portuguese and the Spanish labor markets from a comparative perspective.

¹⁴ According to the results presented in [Budría \(2007\)](#), an income of at least 73,330 (in 2005 Euros) was required in 2001 to belong to the top 1%, which had an average income of 88,660. My estimations of top fractile income levels show that the top 1% had an average income of 142,500, while an income of 73,330 only qualified as top 5–1%. See [Appendix Table D.2](#). Budría's unit of analysis is the household; mine is the tax unit defined as the married couple or single adult.

¹⁵ The details on data sources and methods together with the complete set of results and documentation are presented in [Appendix](#), available on line.

¹⁶ I am implicitly assuming that the number of single people aged less than 20 years old with enough income to file a tax return is negligible.

in 2005, there are 8,387,000 adults in the Portuguese population, 5,759,000 tax units and 4,294,000 tax files. The top 1% represents the top 57,590 tax filers.

I define income as gross income before all deductions and including all income items reported on personal tax returns: salaries and pensions, self-employment and unincorporated business net income, dividends, other investment income, rents and other smaller income items. Since 1989, interest income is taxed at the source at a flat rate, and it is generally not reported. Capital gains were almost completely untaxed before 1989; only a fraction of them is included in the tax base since 1989, and it is easy to satisfy the conditions for capital gains to go untaxed (and not reported). In particular, gains from public debt bonds are exempted, as well as gains from stocks if kept for more than 12 months. Capital gains from real estate are also untaxed when they come from the main residence or when their proceeds are used to purchase real estate property again. No information is available about the distribution of reported capital gains.¹⁷ They are presumably very small. The income definition is before personal income taxes and personal payroll taxes but after employers' payroll taxes and corporate income taxes and it excluded capital gains and interest income.¹⁸

The main data consists of tables displaying the number of tax returns and the amounts reported (gross income, taxable income, tax paid) for a large number of income brackets. As the top tail of the income distribution is very well approximated by Pareto distributions, I use simple parametric interpolation methods to estimate the thresholds and average income levels for each fractile. This method follows the classical study by Kuznets (1953) and has been used in many of the top income studies presented in Atkinson and Piketty (2007).¹⁹ In order to estimate shares of income, I divide the income amounts accruing to each fractile by an estimate of total personal income, defined ideally as total personal income reported on income tax returns, had everybody been required to file a tax return.²⁰ The total income denominator is based on National Accounts statistics. The fact that only a small fraction of tax units file a tax return (especially before 1988) implies that the income denominator cannot be approximated by using income tax statistics only.²¹

Table 1 gives thresholds and average incomes for a selection of fractiles in Portugal in 2005.

2.2. Wages

The estimates of top wage shares are based on two types of sources: (i) tax statistics (the schedule tax on wages until 1982 and the withholdings at the source on wage income for the modern income tax since 1989) and (ii) micro-data from administrative records (*Quadros de Pessoal*, 1985–2004).

The tabulations from the schedule tax have essentially the same structure as the one described above for the income tax. They have been compiled by the Portuguese bureau of statistics between 1936 and 1982 and display the number of taxed workers and the tax collection for a number of brackets. However, several changes in the tax code, modifications in the coverage of the tax and the way the statistics are presented imply that I can only provide homogeneous estimates for 1964–1982. The tabulations based on withholdings on wages cover the period 1989–2000. I also assume a Pareto distribution to estimate top wage shares. In this case, the top groups are defined relative to the total number of workers while the shares of top wages are defined relative to the total wage bill from National Accounts, net of employer social security contributions.

I also provide estimates of shares of top wages based on micro-data from administrative records, which are available between 1985 and 2004 (1990 and 2001 missing). Every year, employers are required by law to provide information about their firm and their employees. Civil service and domestic workers are excluded. State-owned companies are included. Agriculture workers are included, although in practice the level of coverage is very low. Top groups are defined in terms of the total number of workers present in the records and the top shares are defined relative to the aggregate wages and salaries in the database.

3. Top income shares

Fig. 1 displays the average personal income per adult and per tax unit along with the consumer price index for the period 1936–2005. As Portugal stayed neutral during the Second World War, the impact of the conflict in terms of per capita GDP was relatively small; after the end of the war and up to 1950 growth was positive but low. The gap to the European core began to be partially abridged, though part of the recovery was due more to the negative effects of the war in the rest of the countries rather than to the improvements in Portugal. Rapid growth started in the 1950s and lasted until the beginning

¹⁷ The erosion of capital incomes from the progressive income tax base is a standard feature in most countries. Early income tax schemes included a much larger fraction of capital income than the present progressive income tax systems. In most Western countries many sources of capital incomes, such as interest income or returns on pension funds have been taxed separately at flat rates or fully exempted. For the case of France, Piketty (2001) has shown that the long-run decline of top income shares was robust, in the sense that adding an estimate of today's exempt capital incomes to reported incomes is insufficient to undo the observed fall. The treatment of capital gains also differs across countries and across time.

¹⁸ A description of the evolution of the income tax in Portugal between 1936 and 2005 concerning exemption thresholds, family allowances, main tax deductions and marginal rates is provided in Appendix Tables A.1 and A.2.

¹⁹ The mean-split-histogram method can also be used to estimate income fractiles, as shown in Atkinson (2005).

²⁰ This methodology follows the classical study of Kuznets (1953) as well as several studies presented in Atkinson and Piketty (2007).

²¹ The methodology using tax returns to compute the level of top incomes, and using national accounts to compute the total income denominator is standard in historical studies of income inequality. However, it differs from Feenberg and Poterba (1993), who use total income reported on tax returns as their denominator and the total adult population as the number of tax units.

Table 1
Thresholds and average incomes in top income groups in Portugal in 2005.

Percentile threshold (1)	Income threshold (€) (2)	Income groups (3)	Number of tax units (4)	Average income in each group (€) (5)
		Full number of tax units	5,758,946	14,611
Top 10%	29,504	Top 10–5%	287,947	35,776
Top 5%	43,885	Top 5–1%	230,358	59,323
Top 1%	87,054	Top 1–0.5%	28,795	97,812
Top 0.5%	113,979	Top 0.5–0.1%	23,036	144,044
Top 0.1%	206,538	Top 0.1–0.01%	5183	289,503
Top 0.01%	557,582	Top 0.01%	576	1,012,397

Notes: Computations based on income tax return statistics and National Accounts. Income defined as annual gross income reported on tax returns, before individual income taxes but net of all social contributions. Amounts are expressed in 2005 Euros. Column (2) reports the income thresholds corresponding to each of the percentiles in column (1). For example, an annual income of at least 29,504 Euros is required to belong to the top 10% tax units, etc.

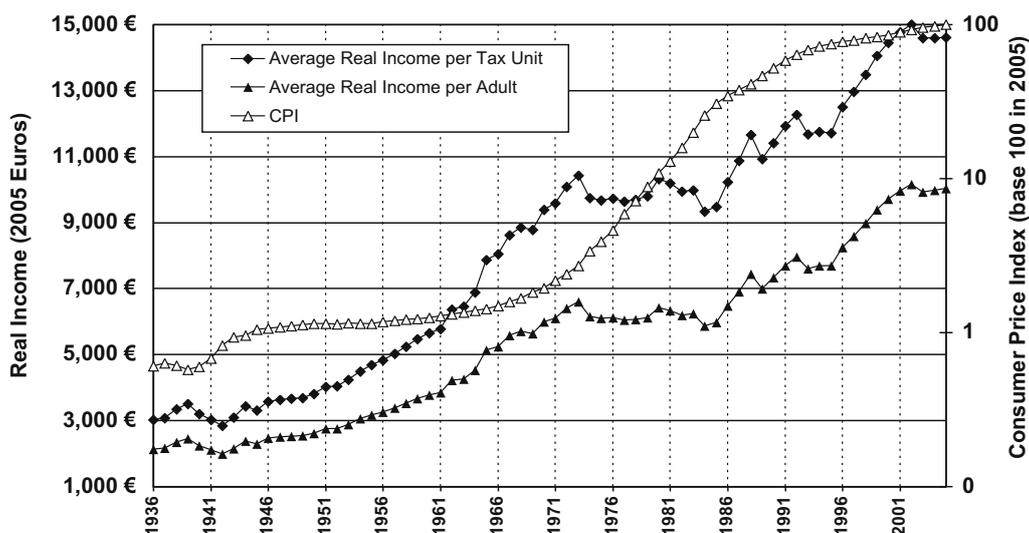


Fig. 1. Average real income and consumer price index in Portugal, 1936–2005. Notes: Figure reports the average real income per adult (aged 20 and above) and per tax unit, expressed in real 2005 Euros. CPI index is equal to 100 in 2005. Source: Table C.1.

of the 1970s. The slowing down of economic growth that followed is generally attributed to the oil shock and to the aftermath of the revolution that ended the dictatorship in 1974. The country experienced a severe economic crisis in the first half of the 1980s, but growth resumed again after Portugal's accession to the European Union in 1986, starting a period in which GDP per capita grew faster than the EU average; however, since 1999 the economy slowed down and in early 2002 entered a recession.

Fig. 2 displays the top 0.01% and the top 0.1% income shares between 1936 and 2005. The break between 1982 and 1989 reflects the unavailability of tax data during the 5 years before the change from the old to the new income tax. A number of important conclusions become apparent. First, the highest income concentration occurred in the 1930s and early 1940s. The top 0.1% share was above 4.5% in 1936, 1941 and 1942 (almost twice as high as in the recent period). This strongly suggests that income concentration in Portugal in the 1930s was substantially higher than it is today. This pattern, also found in the case of Spain and in many of the studies gathered in Atkinson and Piketty (2007) should not appear as unexpected, as Portugal displayed a low average income and a high concentration of wealth.

Second, the old income tax statistics displayed a large decrease in top shares in the first half of the 1940s. This coincided with the Second World War and with a sharp increase in the statutory marginal tax rates: the top rate moved from 8.5% in 1945 to 30% in 1946. However, the top income-weighted (effective) rates augmented only from 5% to around 9%. If such drop in the top 0.1% income share were solely due to an increase in the tax evasion/avoidance following the increase in the effective marginal tax rate, then the elasticity of high incomes with respect to one minus the marginal tax rate would have been exaggeratedly high.

Third, top income shares recovered partially after the end of the war, this improvement being concentrated in the top 0.1–0.01%. However, such a recovery was small and almost non-existent for the top 0.01%: after 1946 the top 0.01% share hardly attained the values displayed before. Tax statistics providing the composition of reported top incomes show that taxpayers in 1946 (representing the top 0.3%) obtained about 37% of their income from returns on real estate and farm income, 7% from returns on financial assets, 26% from non-farm business income and about 30% from employment income (Appendix Table D.3). This suggests that a significant portion of the very rich were actually passive landowners deriving income from rents and farm business. Such facts are not astonishing in the light of the agricultural nature of the Portuguese economy by the

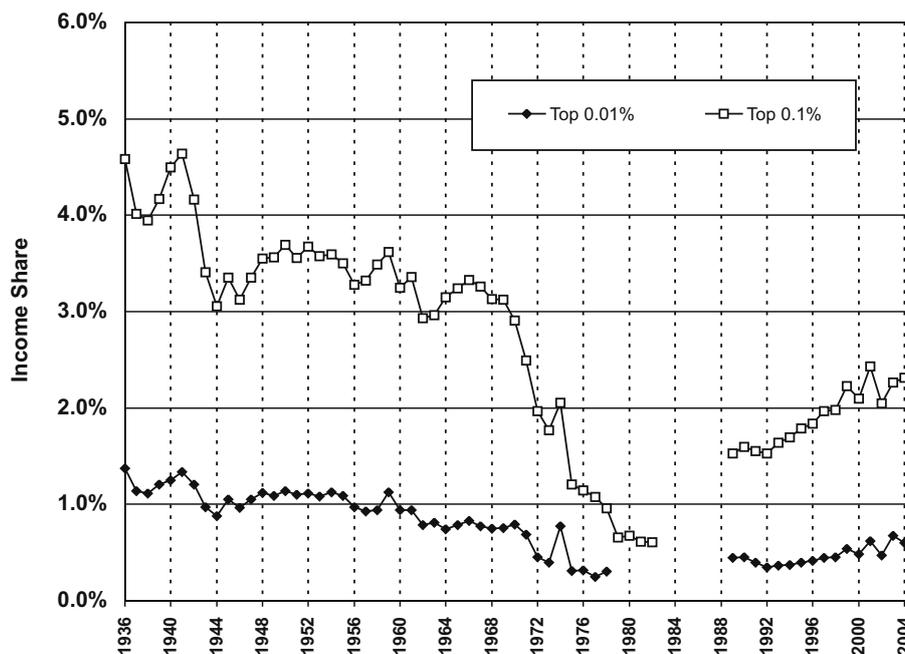


Fig. 2. The top 0.01% and 0.1% income shares in Portugal, 1936–2005. Source: Table D.1, columns top 0.01% and top 0.1%.

middle of the twentieth century; however, they stand in contrast with Spain, where top income earners at that time were much more likely to be owners of financial assets and non-farm businesses, as shown in [Alvaredo and Saez \(2009\)](#).²²

Fourth, income concentration remained around 1.0–1.1% for the top 0.01% and around 3.5% for the top 0.1% from 1946 to 1960, suggesting that the high income growth started at the beginning of the 1950s did not produce important changes on income concentration until the beginning of the following decade. The top 0.01% shares in 1962–1971 were again stable but slightly lower than the levels observed in 1946–1961. It can be concluded that the mild liberalization policies adopted by the government during the third quarter of the twentieth century, and which are usually associated to the increase in growth rates, did not impact on the concentration of income to a great extent.²³ By 1963 the composition of top incomes (representing the top 1.2%) had not changed in a significant way compared to 1946 either.²⁴ This reflects the slow changes in the economic structure of the country. The published statistics show that the participation of capital income lost some ground in favor of employment and business income.²⁵

Finally, a drastic jump downwards in top shares happened since 1970, and specially since 1974. This coincided with the final period of the dictatorship and could be attributed to the loss of the African colonies and to the leftward movement of the revolutionary government after 1974, when a process of nationalizations broke up the concentration of economic power in the hands of the financial-industrial groups. Banks and insurance companies were nationalized, basic industries became the property of the state and officials began to call for a major program of large-scale land expropriation.²⁶ Individuals who

²² [Harsgor \(1976\)](#) argues that under the old regime, Portugal's private sector was dominated by 40 great families. The industrial dynasties were allied by marriage with the large traditional landowning families of the nobility. The top 10 families owned all the important commercial banks.

²³ The results in [Guilera \(2008\)](#), show a large rise in top shares in 1964 and 1965, years of the first income assessments under the rules of the 1963 tax reform. The adjustments to the raw data explain the discrepancy between his estimates and mine. Published tabulations provide information on gross incomes until 1963 and on taxable incomes between 1964 and 1982. Gross income equals taxable income plus allowances (mainly fixed amounts for family circumstances, and a fraction of wages up to a cap), which are only reported in the aggregate. For 1964–1982 I assumed that each tax filer was entitled to the same allowance. Guilera allocated only a fraction of allowances equally among tax units, and imputed the remaining proportionally to taxable income, generating a jump. Both adjustments are debatable; however, the seeming increase in top shares in Guilera's estimates seems due more to changes in the tax regulations and to the treatment of the data than to true economic forces.

²⁴ It should be noted that the changes in the composition of income shown in [Table D.3](#) are affected by the group considered: as composition statistics are only available in the aggregate, they describe the top 0.3% of tax units in 1946 and the top 1.2% of tax units in 1963.

²⁵ In 1965 a survey of 306 heads (chief executives, presidents) of manufacturing and service enterprises in Portugal's six most industrialized districts (Aveiro, Braga, Lisbon, Oporto, Santarem and Setúbal) was conducted. The survey included questions pertaining to the socioeconomic origins, career patterns, self-image and opinions of the industrial elite. With the rapid advance of the industry and the growth of cities, new channels of upward mobility seemed to have opened. [Makler \(1969\)](#) reveals that the typical businessman was drawn from middle-class backgrounds. See also [Makler \(1976\)](#).

²⁶ Between 1974 and 1975 more than 1300 industrial companies were nationalized; for a detailed account of nationalizations in the industrial sector see [Martins and Chaves Rosa \(1979\)](#). In less than 6 months 1.2 million hectares were expropriated in the southern and central provinces south of the Tagus river, that is, 13% of the country's surface and 25% of total agricultural land. The occupation of large estates had begun even before a governmental decision gave it legal status through Decree-Law 203C/1975 and Decree-Law 207/1975 (see [Barreto, 1983, 1987, 1988](#)). Two thousand houses were seized in the two weeks following the fall of the dictatorship, and only in February 1975, 2500 apartments were occupied in Lisbon alone (see [Downs, 1983](#)). A decollectivization process started modestly by the end of the 1970s and culminated with the reformed agrarian law enacted in 1988 (Law 109/1988 of 26/9/1988) and with the final setting of monetary compensations for original proprietors (Law 199/1988 of 31/5/1988). By the mid-1990s only one tenth of the expropriated estates were still in possession of collective farms.

had compromised with the old regime were ejected from their posts in universities and government agencies. As described in Bermeo (1987), faced with the real possibility of expropriation or loss of employment, large groups of the Portuguese upper classes simply left the country. Presumably the spike in top shares observed specifically in 1974 was related to a more strict government control over the wealthy (or the fear of it). Consequently, the transition from dictatorship to democracy was associated with a significant drop in top shares.

3.1. Top incomes in the last three decades

The number of tax files augmented considerably since the mid-1970s; therefore I can analyze the top 10% of the distribution between 1976 and 2005. Fig. 3 displays top income shares for three groups within the top decile: the bottom half of the top decile (top 10–5%), the next 4% (top 5–1%) and the top percentile. Three elements are worth noticing. Firstly, the decrease in income concentration, started at the beginning of the 1970s and accelerated since 1974, reversed in the early 1980s. Second, although I cannot rigorously establish what happened between 1983 and 1988, the level of income concentration in 1989 measured with the new income tax statistics was noticeably higher than in 1982. Indeed, top shares in the early 1990s were similar to the levels of 1976. This contrasts with the results, obtained from survey data, which point to a relative stable income distribution during the 1980s. Finally, since 1989, the increase in top shares has been higher, the higher the fractile considered.

Fig. 4 investigates the concentration pattern further by splitting the top 1% into three groups: the top 1–0.5%, the top 0.5–0.1% and the top 0.1%. Again, the higher the fractile, the higher the increase in the share from 1989 to 2005: the top 1–0.5% increased 30% from 2.5% to 3.3% while the top 0.1% increased over 65% from 1.5% to 2.5%. This pattern has also been found in the cases of Spain (Alvaredo and Saez, 2009) and Italy (Alvaredo and Pisano, 2009). Alvaredo and Saez (2009), in particular, have shown that the increase in income concentration that took place in Spain since 1981 has been a phenomenon concentrated within the top 1% of the distribution and in particular within the top 0.1% while the top 10–5% share declined. In Portugal, all groups within the top decile displayed important increases.

The break in the series between 1982 and 1989 hide the effects of key changes to the tax structure. Between those years, the top statutory marginal rates came down from 70% (80% for single individuals) to 40%. In 1988 the schedule tax on wages (with a top marginal rate of 22%) was removed. Fig. 4 displays such a drop. The income-weighted marginal rate for the top 0.1% group (both income and wage taxes considered) dropped from around 62% in 1979 to 40% in 1989. The experience since 1989, when constant top marginal rates coexisted with an increasing trend in top shares, suggests that the level of marginal tax rates at the top has not been a primary determinant of the level of top reported incomes.

3.2. International comparison

How does Portugal stand in relationship with other countries? Fig. 5 displays the top 0.1% income shares in Portugal in comparison with a number of economies: Spain, Italy, France, the United States, Switzerland and the United Kingdom. In the early 1940s, Portugal had a level of income concentration that was very similar to that of all the countries shown. Nevertheless, top shares in France and the United States fell more sharply than in Portugal after the Second World War. As a consequence, the level of concentration in Portugal between 1950 and 1970 remained high relative to the other countries, with one exception: between 1945 and the early 1960s the levels of concentration in Portugal and Switzerland were comparable. Between 1960 and the first half of the 1970s, top income shares in Switzerland were higher, but the distance to Portugal narrows if the emigration flows (considered in Section 3.3) are taken into account. The large drop in top shares since the beginning of the 1970s is noticeable not only in terms of the evolution of concentration in Portugal, but also from a comparative perspective. Nevertheless, it is clear that not all the drop should be attributed to the political turmoil or the economic policies of the revolutionary period: top shares in the UK and Switzerland also experienced important reductions in 1970–1975, even when the change in Portugal was definitely more radical. Finally, as in the cases of Spain and Italy, the increase in income concentration in the last years was small compared to the upsurge observed in the United States and other Anglo-Saxon countries; Portugal's experience was closer to those of continental Europe countries.

3.3. Emigration flows and sensitivity of the results

Emigration has been one of the main features of the Portuguese socio-economic situation in Portugal during the twentieth century.²⁷ It has provided a safety valve for open and disguised unemployment. According to official estimates, 1.8 million individuals left the country between 1950 and 1975, which is a significant number for a population that only grew from 8.5 million to 9.3 million between those years.²⁸ I would like to assess the effects of such large-scale migrations on the top shares estimates.

²⁷ It is not the intention of this section to analyze the causes and consequences of emigration in Portugal, for which the reader could refer to Baganha (1990, 1991, 1993, 1994).

²⁸ Valério (2001) and Conim (1976).

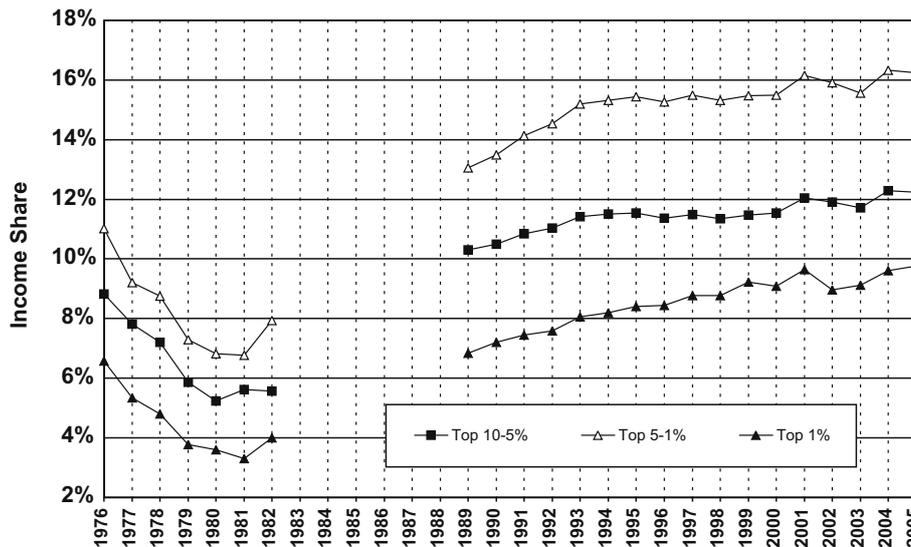


Fig. 3. The top 10–5%, top 5–1%, and top 1% income shares in Portugal, 1976–2005. Source: Table D.1, columns top 10–5%, top 5–1%, and top 1%.

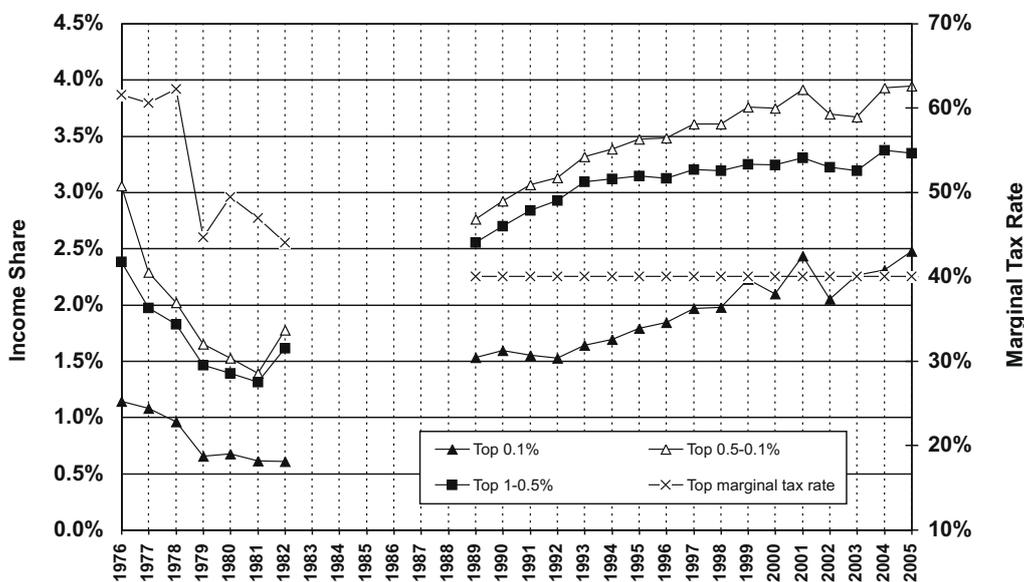


Fig. 4. The top 1–0.5%, top 0.5–0.1%, and top 0.1% income shares and income-weighted top marginal tax rate in Portugal, 1976–2005. Source: Table D.1, columns top 1–0.5%, top 0.5–0.1%, and top 0.1%.

Other things equal, adding up all emigrants each year to the population control provides an *upper bound* for top shares.²⁹ Such a change increases estimates in 1970 by 19% for the top 0.01% and by 22% for the top 0.1% (meaning that the share of the top 0.01% became 0.94% in place of 0.79% and the share of the top 0.1% became 3.54% in place of 2.91%). The results are presented in Fig. 6 for the top 0.01% income share between 1946 and 1978 together with the counterfactual estimates. The main results are not altered. Consequently, one of the results presented in the previous section (namely, that the top 0.01% share remained fairly stable between 1946 and 1961 and also stable between 1962 and 1971 at a slightly lower level) was not driven by the dynamics of migrations flows.

4. Wage concentration

Unfortunately, tax statistics do not allow for a dynamic analysis of income composition at the top because the Portuguese tax tabulations do not provide information on the composition of incomes by ranges. Notwithstanding this shortcoming, I can get more direct evidence on changes in inequality from wage statistics available on an annual homogeneous basis.

²⁹ Adding up all emigrants to the population control amounts to assuming that all of them can be considered as tax units, that they are alive throughout the period and that they would have had little income if stayed in Portugal. Therefore it is necessary to go further down in the distribution to locate the top *x*%. Assuming the same growth rate of tax units since 1950 for Portugal as in Spain or France gives very similar results.

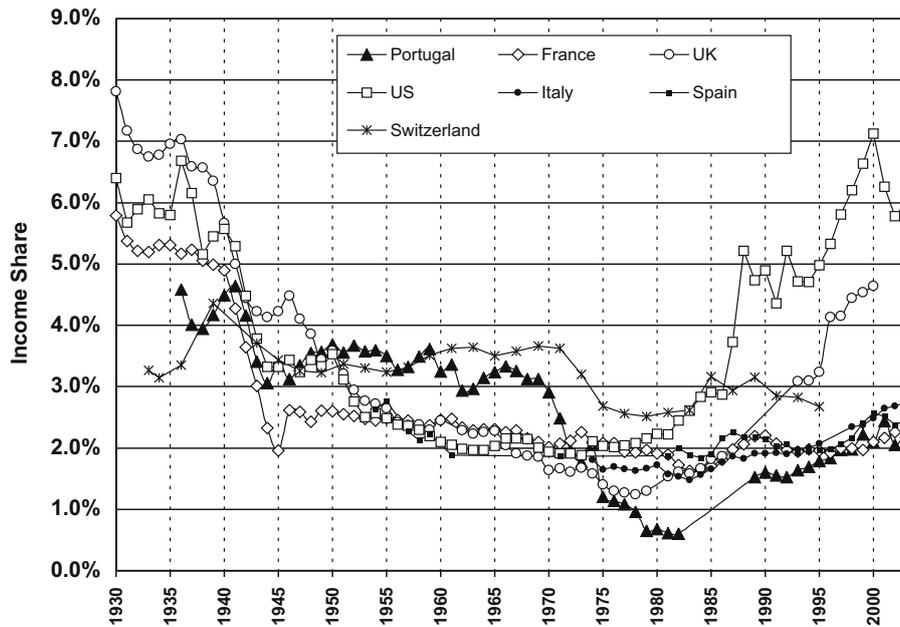


Fig. 5. Top 0.1% shares in Portugal, UK, Italy, France, Switzerland, United States and Spain. Sources: US: Piketty and Saez (2003); France: Piketty (2001) and Landais (2007); Spain: Alvaredo and Saez (2009); Italy: Alvaredo and Pisano (2009); UK: Atkinson (2007); Switzerland: Dell et al. (2007); Portugal: Table D.1.

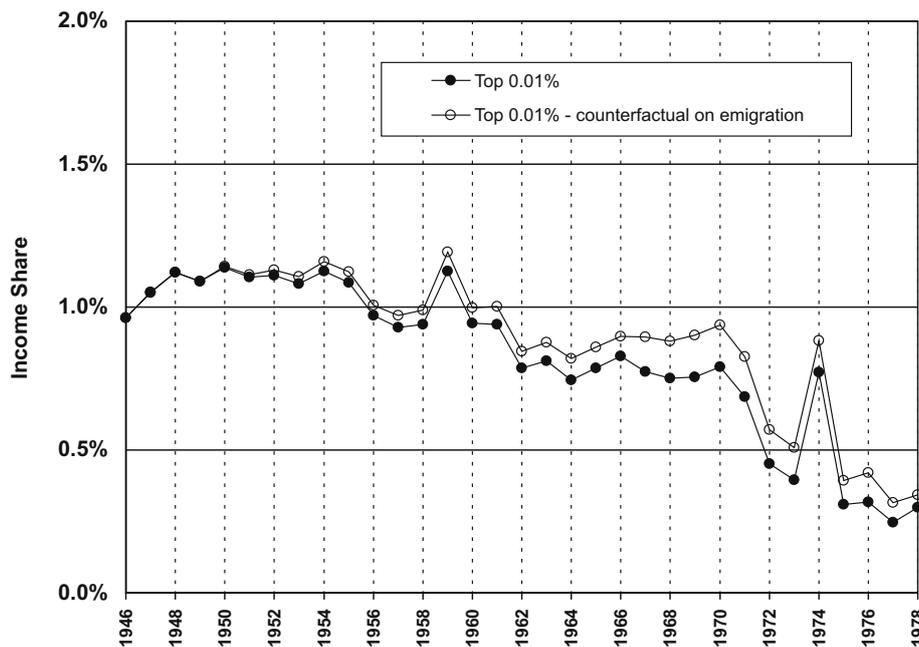


Fig. 6. The top 0.01% income share in Portugal and counterfactual effects of emigration.

As done for overall personal income, Fig. 7 displays top wage shares between 1964 and 2000 for three groups within the top decile: the bottom half of the top decile (top 10–5%), the next 4% (top 5–1%) and the top percentile, while Fig. 8 splits the top percentile in three groups: the top 1–0.5%, the top 0.5–0.1% and the top 0.1%. The information suggests that wage concentration (top 1% and above) fell significantly during the last years of the authoritarian regime and the transition. Unlike the case of total income, the sharp decrease in top wages between 1970 and 1976 was a phenomenon concentrated in the top 1%, and especially in the top fractiles within the top 1%. Interestingly, despite important movements over the period, the level of concentration within the top 1% by the end of the 1990s was comparable to the level of 1970 and slightly lower than the levels in 1964–1969. This suggests that the increase in overall income concentration over the last years in Portugal has been extremely influenced by the evolution of top wages.

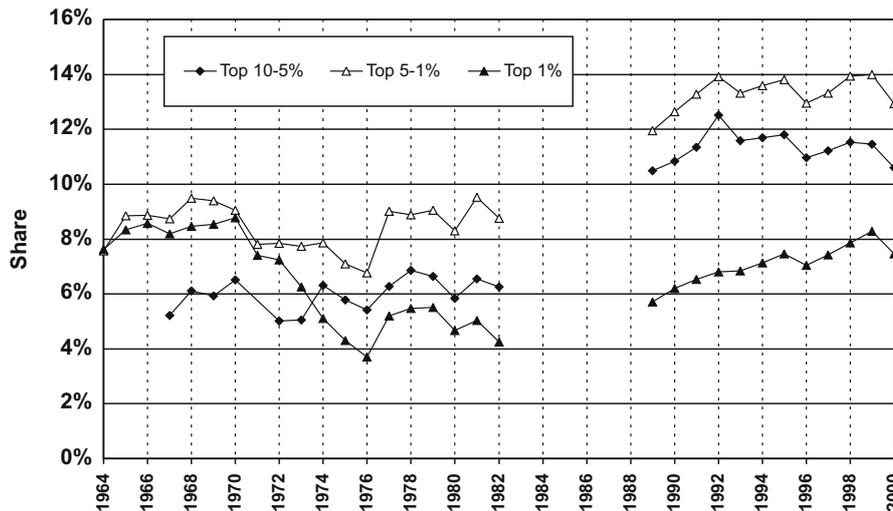


Fig. 7. Top wage shares in Portugal from tax statistics, 1964–2000. Note: Civil service is excluded. Source: Table D.4, columns top 10–5%, top 5–1%, and top 1%.

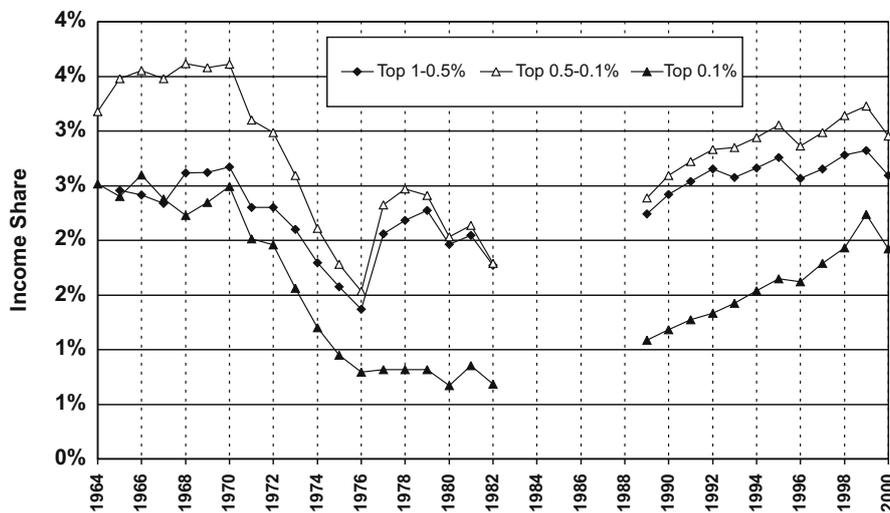


Fig. 8. Top wage shares in Portugal, 1964–2000. Note: Civil service is excluded. Source: Table D.4, columns top 1–0.5%, top 0.5–0.1%, and top 0.1%.

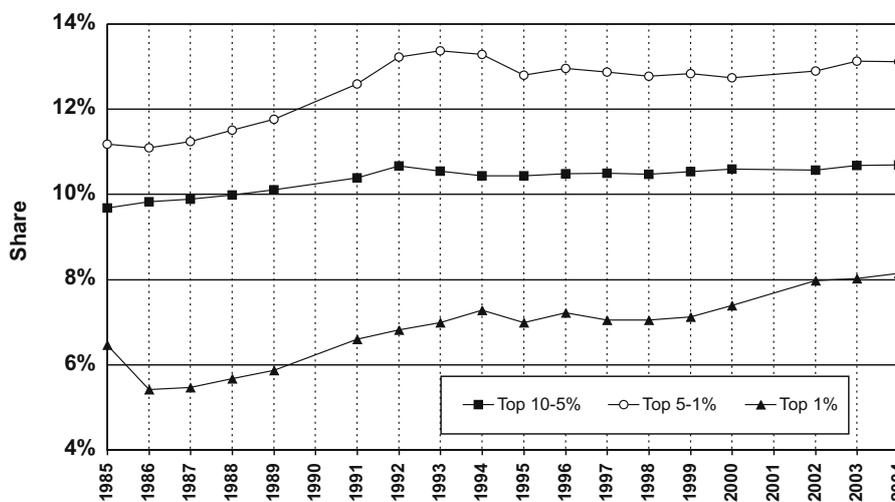


Fig. 9. The top 10–5%, top 5–1%, and top 1% wage shares in Portugal, 1985–2004 from administrative records (*Quadros de Pessoal*). Source: Table D.6, columns top 10–5%, top 5–1%, and top 1%.

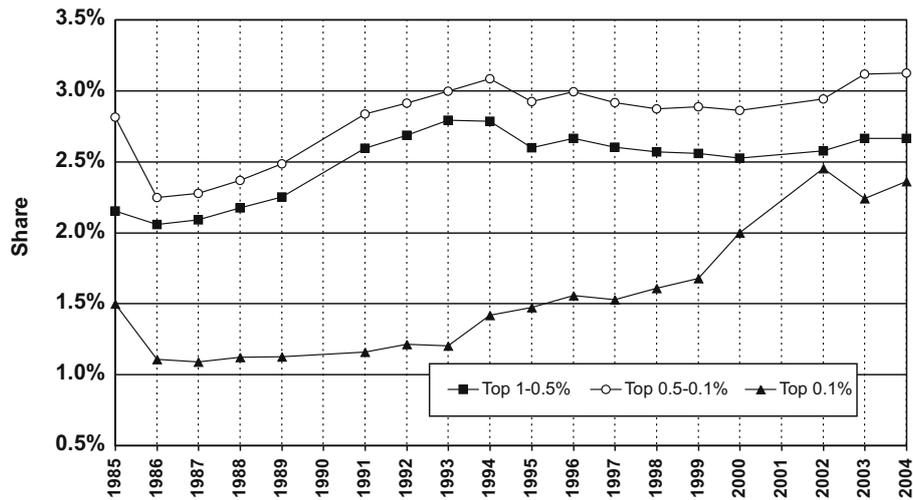


Fig. 10. The top 1–0.5%, top 0.5–0.1%, and top 0.1% wage shares in Portugal, 1985–2004 from administrative records (*Quadros de Pessoal*). Source: Table D.6, columns top 1–0.5%, top 0.5–0.1%, and top 0.1%.

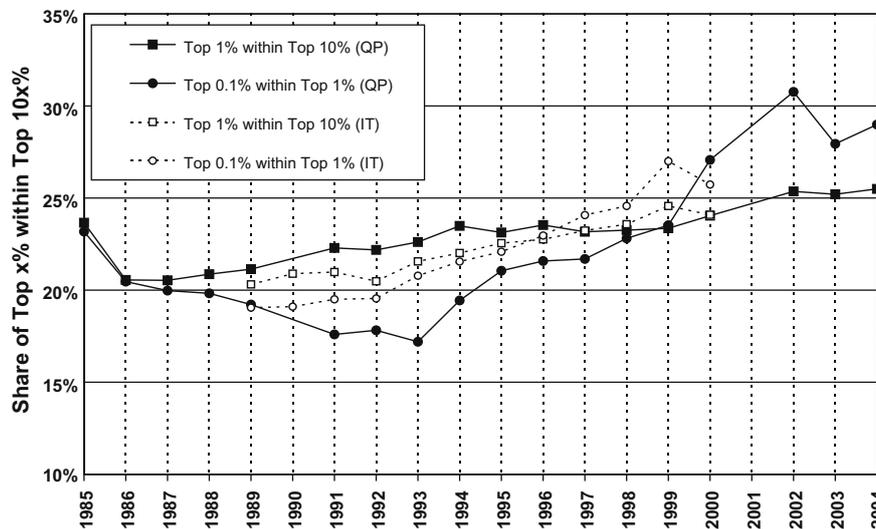


Fig. 11. Shares within shares in Portugal 1985–2004. Comparison between administrative records (*Quadros de Pessoal*) and income tax statistics. Notes: QP denotes results based on *Quadros de Pessoal*; IT denotes results based on income tax statistics. Source: Tables D.4 and D.6.

Figs. 9 and 10 show the same shares but their results come from the micro-data from administrative records from 1985 to 2004. Two periods are clearly identifiable: (i) until 1993 the increase in earnings concentration was mostly condensed in the top 5–0.1%; the top 0.1% was stable or even declined between 1985 and 1986; (ii) since 1994 the increase in concentration was mainly happening at the top 0.1%, which augmented considerably from 1.4% in 1994 to 2.4% in 2004, that is, around 70%.

These conclusions do not depend on the subset of workers included in the administrative records. Fig. 11 compares the top 1% share within the top 10% and the top 0.1% share within the top 1% from the *Quadros de Pessoal* with the series computed from income tax statistics (in which all workers filing a return are included, without distinction of sector of activity). Both sets of series follow the same pattern. The similarity is not surprising, given that the data are not independent: wages reported by employers to the *Quadros de Pessoal* are subject to withholding tax.

The presented evidence suggests that the patterns are not only coincident with the findings of Cardoso (1998a,b) for the period 1983–1992 but also that they have been reinforced between 1992 and 2004: a relatively compressed bottom and a stretched top can be highlighted as the main characteristics of the Portuguese earnings distribution. The high degree of inequality prevailing in the country’s labor market is essentially due to the fact that high wages are very high relative to the rest of the distribution: the gap has kept growing.

5. Conclusion

This paper has attempted to analyze the concentration of incomes and earnings in Portugal from a long-run perspective using the best available statistical evidence. The results suggest that income concentration was much higher during the

1930s and early 1940s (at levels comparable to other countries such as France, Spain or the United States) than it is today. Top income shares estimated from reported incomes deteriorated during the Second World War, even if Portugal did not take active participation in the conflict. However, the magnitude of the drop was less important than in other European countries. The level of concentration between 1950 and 1970 remained relatively high compared to countries such as Spain, France, UK or the United States. The decrease in income concentration, started in 1970–1971 and accelerated after the revolution of 1974, began to be reversed in the early 1980s. During the last 15 years the shares above the top 10% have augmented steadily. The increase has been higher, the higher the fractile considered.

The evidence since 1989 suggests that the level of marginal tax rates at the top has not been a primary determinant of the level of top reported incomes. Marginal rates have stayed constant in a context of growing top shares.

The dynamics of top incomes have been partially driven by the behavior of top wages. Between 1985 and 1994 the increase in earnings concentration was mostly condensed in the top 5–0.1%. Since then, the increase in concentration has been happening mainly in the top 0.1% of the wage distribution.

Appendix. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.eeh.2009.04.006.

References

- Aaberge, R., Atkinson, A., 2009. Top Incomes in Norway (Mimeo).
- Albuquerque, R., Gouveia, M., 1994. Distribuição dos Salários em Portugal 1980 e 1990. In: Banco de Portugal, Relatório Anual.
- Alvaredo, F., 2007. The Rich in Argentina over the Twentieth Century. Paris School of Economics Working Paper 2007-02.
- Alvaredo, F., Pisano, E., 2009. Top Incomes in Italy 1974–2005 (Mimeo).
- Alvaredo, F., Saez, E., 2009. Income and wealth concentration in Spain in a historical and fiscal perspective. *Journal of the European Economic Association* 7(5), in press.
- Atkinson, A., 2005. Top incomes in the United Kingdom over the twentieth century. *Journal of the Real Statistical Society, Series A* 168 (2), 325–343.
- Atkinson, A., 2007. The distribution of top incomes in the United Kingdom 1908–2000. In: Atkinson, A., Piketty, T. (Eds.), *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford (Chapter 4).
- Atkinson, A., Leigh, A., 2007a. The distribution of top incomes in Australia. In: Atkinson, A., Piketty, T. (Eds.), *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford.
- Atkinson, A., Leigh, A., 2007b. The distribution of top incomes in New Zealand. In: Atkinson, A., Piketty, T. (Eds.), *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford.
- Atkinson, A., Piketty, T., 2007. *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford.
- Atkinson, A., 2009. *Top Incomes in a Rapidly Growing Economy: Singapore* (Mimeo).
- Baganha, M., 1990. Portuguese Emigration to the United States 1820–1930. Garland Publishing Inc., New York.
- Baganha, M., 1991. Uma Imagem Desfocada—A Emigração Portuguesa e as Fontes sobre a Emigração. *Análise Social* 26 (3–4), 723–739.
- Baganha, M., 1993. Principais Características e Tendências da Emigração Portuguesa, in APS, *Estruturas Sociais e Desenvolvimento*. Fragmentos, Lisbon.
- Baganha, M., 1994. As Correntes Emigratórias Portuguesas no Século XX e o seu Impacto na Economia Nacional. *Análise Social* 29 (4), 959–980.
- Baklanoff, E., 1992. The political economy of Portugal's later estado novo: a critique of the stagnation thesis. *Luso-Brazilian Review* 29 (1), 1–17.
- Banerjee, A., Piketty, T., 2005. Top Indian incomes 1922–2000. *The World Bank Economic Review* 19 (1), 1–20.
- Barreto, A., 1983. *Memórias da Reforma Agrária*. Publicações Europa-América, Lisbon.
- Barreto, A., 1987. *Anatomia de uma Revolução*. Publicações Europa-América, Lisbon.
- Barreto, A., 1988. Reforma Agrária y Revolución en Portugal, 1974–76. *Revista de Estudios Políticos (Nueva Epoca)* 60–61, 413–429.
- Batista, C., 2002. Skill Premium in Portugal: Some Evidence on the Capital-skill Complementarity Hypothesis (Mimeo).
- Bermeo, N., 1987. Redemocratization and transition elections: a comparison of Spain and Portugal. *Comparative Politics* 19 (2), 213–231.
- Bermeo, N., 1997. Myths of moderation: confrontation and conflict during democratic transitions. *Comparative Politics* 29 (3), 305–322.
- Bover, O., García-Perea, P., Portugal, P., 1998. A Comparative Study of the Portuguese and Spanish Labor Markets. Bank of Spain Working Paper 9807.
- Budría, S., 2007. Economic Inequality in Portugal: A Picture in the Beginnings of the 21st Century. Munich Personal RePEc Archive Working Paper No. 1784.
- Budría, S., Nunes, C., 2005. Education and wage inequality in Portugal. In: Asplund, R., Barth, E. (Eds.), *Education and Wage Inequality in Europe: A Literature Review*. ETLA, Series B209, Helsinki.
- Budría, S., Pereira, P., 2008. Education and wage dispersion: new evidence for Europe. In: Dolton, P., Asplund, R., Barth, E. (Eds.), *Education and Inequality across Europe*. Edward Elgar.
- Budría, S., Pereira, P., 2007. The wage effects of training in Portugal: differences across skill groups, genders, sectors, and training types. *Applied Economics* 39 (6), 787–807.
- Cantó, O., Cardoso, A., Jimeno, J., 2002. Earnings inequality in Portugal and Spain: contrasts and similarities. In: Cohen, D., Piketty, T., Saint-Paul, G. (Eds.), *The Economics of Rising Inequalities*. Oxford University Press, Oxford, pp. 55–73.
- Cardoso, A., 1994. Regional wage inequality in Portugal. *Estudos de Economia* 14 (4), 429–450.
- Cardoso, A., 1998a. Earnings inequality in Portugal: high and rising? *Review of Income and Wealth* 44 (3), 325–343.
- Cardoso, A., 1998b. Workers or employers: who is shaping wage inequality? *Oxford Bulletin of Economics and Statistics* 59 (4), 523–547.
- Cardoso, A., 1999. Firms' wage policies and the rise in labor market inequality: the case of Portugal. *Industrial and Labor Relations Review* 53 (1), 87–102.
- Cardoso, A., 2006. Wage mobility: do institutions make a difference? A replication study comparing Portugal and the UK. *Labour Economics* 13 (3), 387–404.
- Cardoso, F., Cunha, V., 2005. Household Wealth in Portugal: 1980–2004. Banco de Portugal Working Paper 4.
- Carneiro, P., 2008. Equality of opportunity and educational achievement in Portugal. *Portuguese Economic Journal* 7 (1), 17–41.
- Castanheira, M., Carvalho, M., 1997. Desigualdade na Distribuição do Rendimento e Disparidades Regionais. *Prospectiva e Planeamento* 3–4, 267–278.
- Castanheira, M., Ribeiro, M., 1977. A Repartição Pessoal do Rendimento em Portugal. *Análise Social* 13 (3), 727–739.
- Conim, C., 1976. Algumas Considerações sobre a Situação Demográfica Portuguesa de 1960 a 1975, in Instituto Nacional de Estatística. *Revista do Centro de Estudos Demográficos* 22, 171–239.
- Costa, A., 1994. The measurement of poverty in Portugal. *Journal of the European Social Policy* 4 (2), 95–115.
- Dell, F., 2007. Top incomes in Germany throughout the twentieth century: 1891–1998. In: Atkinson, A., Piketty, T. (Eds.), *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford (Chapter 9).
- Dell, F., Piketty, T., Saez, E., 2007. Income and wealth concentration in Switzerland over the twentieth century. In: Atkinson, A., Piketty, T. (Eds.), *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford (Chapter 11).

- Downs, C., 1983. Residents' commissions and urban struggles in revolutionary Portugal. In: Graham, L., Wheeler, D. (Eds.), *In Search of Modern Portugal. The Revolution and its Consequences*. The University of Wisconsin Press, Madison, pp. 151–179.
- Feenberg, D., Poterba, J., 1993. Income inequality and the incomes of very high income taxpayers: evidence from tax returns. In: Poterba, J. (Ed.), *Tax Policy and the Economy*, vol. 7. MIT Press, Cambridge, pp. 145–177.
- Ferreira, L., 1992. Pobreza em Portugal. *Variação e Decomposição de Medidas de Pobreza a Partir dos Orçamentos Familiares de 1980–1981 e 1989–1990*. *Estudos de Economia* 12 (4), 377–393.
- Gallaher, T., 1983. *Portugal: A Twentieth-century Interpretation*. Manchester University Press, Manchester.
- Gouveia, M., Rodrigues, C., 2002. The impact of guaranteed minimum income program in Portugal. *Public Finance and Management* 2(2).
- Gouveia, M., Tavares, J., 1995. The distribution of household income and expenditure in Portugal: 1980 and 1990. *Review of Income and Wealth* 41 (1), 1–17.
- Guilera, J., 2008. Top Income Shares in Portugal over the Twentieth Century, Documents de Treball de la Facultat de Ciències Econòmiques i Empresariales, E08/195, Universitat de Barcelona.
- Harsgor, M., 1976. *Portugal in Revolution*. The Washington Papers, 3, No. 33. Sage Publications, Beverly Hills.
- Hartog, J., Pereira, P., Vieira, J., 1999. Inter-industry Wage Dispersion in Portugal: High but Falling. IZA Discussion Paper No. 53.
- Hartog, J., Pereira, P., Vieira, J., 2001. Changing returns to education in Portugal during the 1980s and the early 1990s: OLS and quantile regression estimators. *Applied Economics* 33 (8), 1021–1037.
- Hudson, M., 1989. *Portugal to 1993: Investing in a European Future*. The Economist Intelligence Unit, London, Special Report 1157.
- ILO – International Labor Organization, 1979. *Employment and Basic Needs in Portugal*. Annex I: The Economic and Social Development of Portugal to 1975, Geneva.
- Jääntti, M., Riihelä, M., Sullström, R., Tuomala, M., 2009. Trends in Top Income Shares in Finland (Mimeo).
- Jimeno, J., Cantó, O., Rute, A., Izquierdo, M., Rodrigues, C., 2000. Integration and Inequality: Lessons from the Accessions of Portugal and Spain to the EU. FEDEA, Madrid.
- Kuznets, S., 1953. *Shares of Upper Income Groups in Income and Savings*. National Bureau of Economic Research, New York.
- Lains, P., 1995. *A Economia Portuguesa no Século XIX. Crescimento Económico e Comércio Externo*. Imprensa Nacional, Lisbon.
- Lains, P., 2003a. Catching up to the European core: Portuguese economic growth, 1910–1990. *Explorations in Economic History* 40 (4), 386–396.
- Lains, P., 2003b. Portugal's Growth Paradox 1870–1950. Working Paper No. 135. Faculdade de Economia, Universidade do Porto.
- Lains, P., 2003c. New wine in old bottles: output and productivity trends in Portuguese agriculture 1850–1950. *European Review of Economic History* 7 (1), 1–30.
- Landais, C., 2007. Les Hauts Revenus en France (1998–2006): Une Explosion des Inégalités? Paris School of Economics (Mimeo).
- Leigh, A., van der Eng, P., 2009. Inequality in Indonesia: what can we learn from top incomes. *Journal of Public Economics* 93 (1–2), 209–212.
- Lopes, L., 1994. Manufacturing productivity in Portugal in a comparative perspective. *Notas Económicas* 4, 55–76.
- Lopes, L., 1996. *A Economia Portuguesa desde 1960*. Gradiva, Lisbon.
- Machado, J., Mata, J., 2001. Earnings functions in Portugal 1982–1994: evidence from quantile regressions. *Empirical Economics* 26 (1), 115–134.
- Maddison, A., 2001. *The World Economy. A Millennial Perspective*. OECD, Paris.
- Maddison, A., 2003. *The World Economy. Historical Statistics*. OECD, Paris.
- Makler, H., 1969. A “Elite” Industrial Portuguesa. Instituto Gulbenkian de Ciencia, Lisbon.
- Makler, H., 1976. The Portuguese industrial elite and its corporative relations: a study of compartmentalization in an authoritarian regime. *Economic Development and Cultural Change* 24 (3), 495–526.
- Martins, M., Chaves Rosa, J., 1979. *O Grupo Estado: Análise e Listagem Completa das Sociedades de Sector Público Empresarial*. Edições Journal Expresso, Lisbon.
- Martins, P., Pereira, P., 2004. Does education reduce wage inequality? Quantile regressions evidence from sixteen European countries. *Labour Economics* 11 (3), 355–371.
- Ministério do Emprego e da Segurança Social, 1992. *Relatório de Conjuntura anual de 1989, Relatórios e Análises*, 44, Departamento de Estudos e Planeamento.
- Moriguchi, C., Saez, E., 2008. The evolution of income concentration in Japan, 1886–2005: evidence from income tax statistics. *Review of Economics and Statistics* 90 (4), 713–734.
- Murray, A., Steedman, H., 1998. *Growing Skills in Europe: The Changing Skills Profiles of France, Germany, the Netherlands, Portugal, Sweden and the UK*. CEP Discussion Paper No. 399. London School of Economics.
- Nolan, B., 2007. Long-term trends in top income shares in Ireland. In: Atkinson, A., Piketty, T. (Eds.), *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford (Chapter 5).
- Nunes, A., Mata, E., Valério, N., 1989. Portuguese economic growth 1833–1985. *Journal of European Economic History* 18 (3), 291–300.
- OECD – Organization for Economic Co-operation and Development, 1992. Earnings inequality: changes in the 1980s. In: *Employment Outlook*, July, pp. 157–184.
- Payne, S., 1972. *A History of Spain and Portugal*. The University of Wisconsin Press, Madison.
- Piketty, T., Saez, E., 2003. Income inequality in the United States, 1913–1998. *Quarterly Journal of Economics* 118(1), 1–39. Longer version: Atkinson, A., Piketty, T., 2007. *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford (Chapter 5).
- Piketty, T., 2001. Les Hauts Revenus en France au 20^{ème} siècle – Inégalités et Redistributions, 1901–1998. Editions Grasset, Paris.
- Piketty, T., 2003. Income inequality in France 1901–1998. *Journal of Political Economy* 111 (5), 1004–1042.
- Piketty, T., Qian, N., 2009. Income inequality and progressive income taxation in China and India: 1986–2015. *American Economic Journal: Applied Economics* 1(2), 53–63.
- Robinson, R., 1979. *Contemporary Portugal*. George Allen & Unwin, London.
- Rodrigues, C., 1988. *Estudo Comparativo da Desigualdade das Famílias Portuguesas 1973/74–1980/81*. CISEP Working Paper. Instituto Superior de Economia e Gestão, Lisbon.
- Rodrigues, C., 1993. The Measurement and Decomposition of Inequality in Portugal 1980/1981–1989/1990. Microsimulation Unit Discussion Paper MU9302. Department of Applied Economics, Cambridge University.
- Rodrigues, C., 1994. Repartição do Rendimento e Desigualdade: Portugal nos Anos 80. *Estudos de Economia* 14 (4), 399–427.
- Rodrigues, C., 1996. Medição e Decomposição da Desigualdade em Portugal 1980–1990. *Revista de Estatística* 3 (1), 47–70.
- Rodrigues, C., 1999. Income Distribution and Poverty in Portugal 1994/1995, A Comparison between the European Community Household Panel and the Household Budget Survey. Working Paper CISEP, ISEG/Universidade Técnica de Lisboa, June. Portuguese version: Repartição do Rendimento e Pobreza em Portugal 1994/1995–Uma Comparação entre o Painel dos Agregados Familiares e o Inquérito aos Orçamentos Familiares. *Revista de Estatística* 5(1), 117–142.
- Rodrigues, C., 2008. Distribuição do Rendimento, Desigualdade e Pobreza: Portugal nos anos 90. Editora Almedina, Coimbra.
- Rodrigues, C., Albuquerque, J., 2000. Pobreza e Exclusão Social: Percursos e Perspectivas da Investigação em Portugal. In: *Actas do Seminário Pobreza e Exclusão Social: Percursos e Perspectivas da Investigação em Portugal*. CESIS, Lisbon.
- Roine, J., Waldenström, D., 2008. The evolution of top incomes in an Egalitarian society: Sweden, 1903–2004. *Journal of Public Economics* 92 (1–2), 366–387.
- Salazar, A., 1939. *Doctrine and Action: Internal and Foreign Policy of the New Portugal 1928–1939*. Faber & Faber Ltd., London.
- Saez, E., Veall, M., 2005. The evolution of top incomes in Northern America: lessons from Canadian evidence. *American Economic Review* 95 (3), 831–849.

- Salverda, W., Atkinson, A., 2007. Top incomes in the Netherlands over the twentieth century. In: Atkinson, A., Piketty, T. (Eds.), *Top Incomes over the Twentieth Century: A Contrast between European and English Speaking Countries*. Oxford University Press, Oxford (Chapter 10).
- Santos, J., 1983. A Distribuição Lognormal: Sua Aplicação a dados Portugueses de Distribuição do Rendimento. *Estudos de Economia* 3 (2), 201–218.
- Silva, M., 1971. *O Nível das Receitas das Famílias Portuguesas*. Brotéria, Monografias, Porto.
- Teekens, R., 1990. Inequality and poverty. Portugal compared with Greece, Ireland and Spain. *Estudos de Economia* 10 (2), 111–142.
- Valério, N., 2001. *Estatísticas Históricas Portuguesas*. Instituto Nacional de Estatística, Lisbon.
- Vieira, J., 1999. *The evolution of wage structure in Portugal 1982–1992*. Ph.D. Thesis. Tinbergen Institute, Amsterdam.
- Vieira, J., Couto, J., Tiago, M., 2006. Inter-regional wage dispersion in Portugal. *Regional and sectoral economic studies*. Euro-American Association of Economic Development 6 (1), 85–106.
- Wheeler, D., 1990. Review of Portugal to 1993. *Portuguese Studies Newsletter* 22, 44–45.