



UNIVERSIDAD CARLOS III DE MADRID

Working Papers in Economic History

September 2007

WP 07-13

Inequality, Poverty, And The Kuznets Curve In Spain, 1850-2000

Leandro Prados de la Escosura

Abstract

In Spain, inequality evolution fits a Kuznets curve. World wars increased inequality but had non-permanent effects. Progressive taxation had no impact until 1980. This picture is at odds with Atkinson, Piketty, Saez, and associates' depiction of western countries. Stolper-Samuelson forces only partially explain inequality trends. A substantial fall in absolute poverty resulted from growth but also from inequality reduction in the Interwar and late 1950s. Rising inequality and extreme poverty were not at the roots of Spain's Civil War. In the Golden Age, inequality contraction and absolute poverty eradication represent a major departure from Latin America's performance while matches OECD's.

Keywords: inequality, Kuznets curve, poverty, Spain.

JEL Classification: D3, I32, N33, N34, O15.

Leandro Prados de la Escosura: Departamento de Historia Económica e Instituciones, Universidad Carlos III de Madrid, C/Madrid 126, 28903 Getafe, Spain.

Email: leandro.prados.delaescosura@uc3m.es

http://www.uc3m.es/uc3m/dpto/HISEC/profesorado/Personal_Leandro_Prados.html

UNIVERSIDAD CARLOS III DE MADRID • c/ Madrid 126 • 28903 Getafe (Spain) • Tel: (34) 91 624 96 37
Site: http://www.uc3m.es/uc3m/dpto/HISEC/working_papers/working_papers_general.html

*INEQUALITY, POVERTY, AND THE KUZNETS CURVE IN SPAIN, 1850-2000**

Leandro Prados de la Escosura
(Universidad Carlos III de Madrid)

Abstract

In Spain, inequality evolution fits a Kuznets curve. World wars increased inequality but had non-permanent effects. Progressive taxation had no impact until 1980. This picture is at odds with Atkinson, Piketty, Saez, and associates' depiction of western countries. Stolper-Samuelson forces only partially explain inequality trends. A substantial fall in absolute poverty resulted from growth but also from inequality reduction in the Interwar and late 1950s. Rising inequality and extreme poverty were not at the roots of Spain's Civil War. In the Golden Age, inequality contraction and absolute poverty eradication represent a major departure from Latin America's performance while matches OECD's.

JEL classification: D3, I32, N33, N34, O15

Keywords: inequality, Kuznets curve, poverty, Spain

Leandro Prados de la Escosura
Departamento de Historia Económica e Instituciones
Edificio Foronda, Despacho 7.0.14
Calle Madrid, 126
28903 Getafe (Madrid), Spain
Tel. +34 916249623
leandro.prados.delaescosura@uc3m.es

* This paper originated as a short-term consultancy research for a project on growth and poverty carried out at the Latin America & the Caribbean Region Office of the World Bank. Humberto López and Luis Servén kindly allowed me access to their unpublished research. Detailed comments and suggestions by Luis Bértola, Pedro Fraile Balbín, Francisco Goerlich, Humberto López, Branko Milanovic, Christian Morrisson, Giovanni Vecchi, and Jeff Williamson are gratefully appreciated. I also thank Francisco Comín, Joan Esteban, Stefan Hout, Matilde Mas, Jordi Palafox, Francisco Pérez, Mari Ángeles Pons, Fernando del Rey, Joan Rosés, Blanca Sánchez-Alonso, James Simpson, and Jan Luiten van Zanden, as well as participants at seminars at San Pablo-CEU and Valencia universities and at the International Economic History Association Congress (Helsinki, August 2006).

“[S]peculation is an effective way of presenting a broad view of the field; and so long it is recognized as a collection of hunches calling for further investigation rather than a set of fully tested conclusions, little harm and much good may result” Simon Kuznets (1955: 26).

This is an intentionally dry and descriptive paper. Its goal is assessing long-run inequality and calibrating the joint impact of growth and inequality on absolute poverty. Modern Spain has been chosen as a case study as she represents a mid-size country that has been through complex circumstances: a long and painful transition to a liberal society during the nineteenth century, broken by revolutions and civil strife; a short and convulsive democratic experience, followed by a bloody civil war (1936-39) that gave way to a long-lasting autocracy under General Franco (1939-75); and a successful combination of growth and openness in a democratic context during the last three decades.. Before proceeding ahead, a caveat is necessary: what it is offered in this preliminary assessment is a set of conjectures on inequality and absolute poverty trends, with no other purpose than to provide a set of explicit hypotheses that stimulate historical research on income distribution and on the links between inequality, poverty, and social conflict.

The paper is divided into three sections. Section I shows, against the pessimistic qualitative assessments of the Spanish economic history pioneers (Sánchez-Albornoz 1968, Tortella 1973, Nadal 1975) which have informed international textbooks and monographs (cf. O’Rourke and Williamson 1999), that modern economic growth in Spain over the last one and a half centuries has been far from a failed experience.¹ But, did GDP growth reach the bottom of the income distribution, or was it prevented by huge inequality? Did economic growth have any impact on absolute poverty reduction? Direct income distribution estimates based on microeconomic evidence prior to 1973 are not available and, in its absence, an indirect macroeconomic approach to appraising inequality is introduced in Section II, in which all the available information about inequality is collated to get an aggregate picture of its evolution since mid-nineteenth century. It turns out that the evolution of income inequality resembles a wide inverted W with peaks in 1918 and 1953, that when plotted against per capita income becomes a single Kuznets curve. In the

Spanish experience Stolper-Samuelson forces only partially explain inequality trends. Furthermore, world wars increased inequality, though with non-permanent effects, and progressive taxation had no impact until the 1980s. Thus, Spain provides a case clearly at odds with the story offered by Atkinson, Piketty, and Saez for a sample of western countries in which political and social factors (wars and progressive taxation) condition the evolution of income inequality. In section III an attempt is made at establishing trends in absolute poverty levels by calibrating the impact of growth and inequality on absolute poverty reduction. Economic growth, together with a decline in inequality, especially during the Interwar years and since the 1950s, led to a long-run reduction in absolute poverty. The fall in inequality and the eradication of absolute poverty during the Golden Age represent major departures with respect to Latin America's patterns while match the ones followed by OECD countries.

A research agenda for Spain's economic history emerges from the paper's results. The Civil War (1936-39) occurred after one and a half decades of inequality decline and poverty alleviation offering an interesting paradox that deserves further investigation. Furthermore, there was an inequality 'overshooting', possibly consequence of the Civil War, during the early years of Franco's dictatorship, in which an association between isolation, sluggish growth, and inequality resulted in high levels of absolute poverty. The late Francoist period appears as a benign phase of economic development in which structural change and capital deepening contributed significantly to inequality alleviation and suppression of absolute poverty.

Long-run Growth

Since mid nineteenth century modern economic growth has irreversibly proceeded in Spain. The steady increase in the aggregate economic activity represents, over a period of a century and a half, a multiplication coefficient of 40, while population increased more than two and half times. As a result, product per head by 2000 was 15 times greater than in 1850.

Three main phases which exhibit marked differences in per capita GDP growth can be identified in Spain's long-run performance: 1850-1950 (0.8 %), 1951-1974 (5.5 %) and

¹ A recent example of this pessimistic, but wrong, view is provided by Alvaredo and Saez (2006) who stress the late start (in the 1950s) of modern economic growth in Spain. Such a mistake is common in approaches

1975-2000 (2.6 %).² Continuity in economic growth between 1850 and 1950 is at odds with a widely held interpretation that emphasizes the nineteenth century as a period of failure and the twentieth century as one of economic success (Tortella 1994), while confirms previous claims of steady trend growth over 1850-1935 (Cubel and Palafox 1998, Carreras 1987, 1992).

Long-term continuity is, however, compatible with phases or long swings in which growth rates differs from the trend growth (Table 1). Economic policies, access to international markets and technological change would play a part in the four phases that can be established during the hundred-year period of steady but mild growth prior to 1950 (Table 1, lower panel).³ The first two cover the years between 1850 and 1920 with 1883 as a turning point, while the third phase covers the twenties and the fourth, the period 1930-1952. During the first and the third periods, 1850-1883 and the 1920s, output per person grew well above the trend rate for 1850-1950. Openness to ideas and to commodity and factor flows underlies the faster pace of growth. Inflows of capital from abroad made it possible to break the close connection between investment and savings and contributed to economic growth (Prados de la Escosura 2003). In the 1920s Government intervention and investment in infrastructures, it has been argued, were decisive factors behind this growth (Velarde 1968) but a significant inflow of foreign capital which allowed the purchase of capital goods and raw materials making possible economic expansion cannot be neglected (Prados de la Escosura 2007c, Tena 1999).

Conversely, from the mid 1880s to 1920 and, again, during 1930-52 (a period which, in addition to the Great Depression, includes the Civil War and its autarchic aftermath) sluggish growth is associated to increasing international isolation (Fraile Balbín 1991). This growing isolationism offers the most plausible explanation for the fact that despite the institutional stability achieved during the Restoration, the rate of growth faded sharply. Increasing tariff protection and not being part of the gold standard seem to have

that focus on the late twentieth century.

² Econometric testing suggests that absolute and per capita GDP series are trend stationary with structural breaks in level (1936) and in trend (1951 and 1975) (Prados de la Escosura 2007a). The growth rates are computed from a Divisia index.

³ These four phases are established as deviations from the trend over 1850-1950 (Prados de la Escosura 2007a).

represented a major obstacle to Spain's integration in the international economy.⁴ Moreover, Spain's neutrality during the World Wars did not provide the economy with the stimulating aggregate effects usually assumed.⁵

The change in trend which began in 1951 ushered in an exceptional phase of rapid growth which lasted until 1974. The autarchic system, gradually eased over the 1950s, underlies the lateness of economic spurt. The cautious move towards a pro-market attitude with a gradual opening up of the economy, irreversible since the 1959 reforms, made it possible to achieve a delayed Golden Age (Prados de la Escosura and Sanz 1996).

After 1975, despite a deceleration in the pace of growth, Spain did not return to the previous long-run trend. The expansion which accompanied entry into the European Union, after overcoming a decade of crisis and change, did not represent, however, a structural break in Spain's long term growth (Prados de la Escosura 2007a).

A closer look can be obtained by breaking down Gross Domestic Product per person (GDP/N) into its components: output per hour worked (GDP/H), hours worked per occupied (H/L), the employment rate (L/EAP), the rate of activity (EAP/PAP) -that is, the ratio of the economically active population (EAP) to the population ages 15-64, or potentially active population, (PAP)- and finally, a demographic variable: the ratio between the potential workforce and total population (PAP/N). Thus,

$$\text{GDP/N} = (\text{GDP/H}) * (\text{H/L}) * (\text{L/EAP}) * (\text{EAP/PAP}) * (\text{PAP/N}) \quad (\text{I})$$

And in rates of variation, expressed in lower case letters,

$$\text{gdp/n} = (\text{gdp/h}) + (\text{h/l}) + (\text{l/eap}) + (\text{eap/pap}) + (\text{pap/n}) \quad (\text{II})$$

Table 1 shows the evolution of product per head and each of its components, expressed in rates of growth, for the long swings identified over the last century and a half. Labour productivity turns out to be the main determinant of per capita GDP growth and shadows it closely. Capital deepening and, during the 1920s and 1953-86, total factor productivity gains played a vital part in raising labour efficiency (Prados de la Escosura and Rosés 2007). While labour productivity gains overcame per capita GDP growth during

⁴ Cf. Tena (1999), Palafox (1999), and Prados (1998) on tariff protection and its effects. See Martín Aceña (1994, 1999) and Bordo and Rockoff (1996) on the gold standard.

⁵ Cf. Roldán and García Delgado (1973) for the conventional view that emphasizes the impact of the Great War.

1959-85, from 1986 onwards productivity lagged way behind per capita income growth and exhibited an inverse relationship with that of employment.

A demographic gift (a larger share of population in working age) made a contribution to per capita GDP growth since 1975. It also played a part in moderating the economic slowdown in the critical moments of World War I and during the 1930s and 1940s. On the contrary, a demographic burden impinged negatively on income per person during the 'Golden Age' (1951-1974).

The fall in the activity rate aggravated the negative impact of unemployment (that went from 4 to 17.4 percent between 1975 and 1985) on per capita GDP growth. Restrictive industrial rules introduced under Franco, which aimed to offset the banning of independent trade unions by prohibiting lay-offs, constituted a major shortcoming for employment creation during the 1970s oil shocks. Employment creation played a distinctive role during the 'Golden Age' and, again, since Spain's admission in the European Union.

Inequality Trends

How much of the sustained growth in GDP per head percolated through to reach the lower quintiles of income distribution? In the absence of direct estimates of income distribution for most of the period considered (household budget surveys are available since 1964, but only fully exploited from 1974 onwards), an alternative approach has to be found.⁶ Historical evidence on Spanish income distribution in the 'pre-statistical' era (namely, before household budget surveys were periodically carried out) is even less satisfactory than that for present day developing countries but, at the same time, social transfers represented a small proportion of GDP and income tax was practically inexistent.⁷ Thus, any attempt to provide orders of magnitude for income distribution over such a long time span is perhaps too audacious, but justified in so far it provides future researchers with hypotheses to be tested with new and more adequate sources.

The scattered and asymmetric (mostly post-1960) time coverage of conventional inequality datasets has motivated attempts to overcome the lack of long-run data on income distribution by constructing alternative inequality measures on the basis of

⁶ For a discussion of available household budget data and its treatment for the case of Spain, cf. Alcaide (1999) and Goerlich and Mas (2001, 2004). Alas, the microdata from the 1964 household budget survey are currently missing.

⁷ A similar picture is drawn for nineteenth century France by Morrisson and Snyder (2000).

miscellaneous information (factor incomes, salary differences across professions, tax returns, ..). My approach is an eclectic one in which choosing between wage and salary dispersion and property income's share in total income is avoided and both are used to depict trends in aggregate inequality.⁸ Thus, the association between the functional and the personal distribution of income will be explored. In fact, changes in the distribution of income between workers and proprietors should not be neglected if one wants to keep the political dimension in the study of inequality.⁹ In the following paragraphs long-run trends in aggregate inequality obtained through these alternative approaches will be portrayed.

Two main approaches to draw inequality trends for the 'pre-statistical' era have been put forward. A major endeavour to derive yearly series of top income (and wealth) shares in national income for a growing sample of mainly OECD countries in the twentieth century is currently undertaken by Anthony Atkinson, Thomas Piketty, Emmanuel Saez, and his associates on the basis of tax statistics.¹⁰ This appealing approach, rooted in Simon Kuznets's (1953) classical work, has, nonetheless, important shortcomings: only a very small fraction of the population was subjected to individual income taxation in many countries prior to the mid-twentieth century, while fraud and tax evasion challenge the reliability of fiscal records as we move back in time or focus on low quality-institution countries. The historical case of Spain seems to fit this picture. High levels of fiscal evasion characterized the Spanish economy until the late twentieth century. Lack of political will to enforce taxation implied that no actual means (statistical records, bureaucracy) were available to fight evasion and fraud until the 1980s.¹¹ In fact, the income tax only became widespread since 1979 after a fiscal reform was introduced and its share of total tax receipts

⁸ On such a dichotomy, cf. Williamson (1982) and Dumke (1988, 1991). I do not preclude, however, the possibility that changes in labour supply and unbalanced technological progress, as posit by Williamson and Lindert (1980), play also a role in inequality.

⁹ Dumke (1988) stresses that in nineteenth century Germany, given restricted franchise, income inequality implied political inequality. This is also true of many other countries in Europe, including Spain (Cabrera and del Rey 2002: 72), where universal suffrage was only introduced in the late nineteenth or early twentieth century. The tolerance to inequality probably differs over time and social sensitivity to inequality within the middle or between the top and the bottom of the distribution varied across different epochs with subsequent political implications. In Spain, for example, prior to the Civil War (1936-39) intolerance to the rise in the share of top incomes was possibly greater than to inequality within wage earnings.

¹⁰ Cf. Atkinson and Piketty (2007) and Piketty and Saez (2006). There is a long-standing tradition of assessing inequality on the basis of the shares of national income accruing to the top of the distribution (cf. Brenner, Kaelble, and Thomas 1991) but only recently has such an approach applied extensively and to a recent period.

¹¹ Tax evasion was estimated in 40 percent of tax receipts by the late 1970s (Comín 1996)

went up from less than 2 percent over 1940-78 to 30 percent in the early 1980s (Comín 1996).¹²

Although the suitability of the top incomes approach for the study of income inequality seems restricted to developed nations and to the late twentieth century, Facundo Alvaredo and Saez (2006) have applied it to Spain since the early 1930s. One of their main findings is that income concentration was much higher in the 1930s than at the end of the twentieth century.¹³ Their figures for the top 0.01 percent income share show a dramatic decline between 1935 and 1961, especially marked throughout the 1940s, and suggest a recovery between 1961 and 1981.¹⁴ Top income shares increased during the last two decades of the twentieth century, as the joint outcome of top salary increases and capital gains.¹⁵

A caveat should be made, however: the income tax introduced in 1932, as part of the reforms implemented by the II Republic (1931-36), was widely evaded as the Government lacked the statistical records and the personnel to enforce it (Comín 1996). Furthermore, the generalization of tax evasion and fraud was confirmed when at the time of the 1957 and 1964 fiscal reforms the Government was still unable to assess incomes rigorously and to enforce tax collection.¹⁶

An alternative to trace the evolution of inequality that focuses, instead, on the bottom of the distribution, neglected by the top income share approach, has been put forward by Jeffrey Williamson (1997) in his attempt to ascertain how much of the increase in GDP per head accrues to raw labour. Williamson proposes an 'inequality index' defined as the ratio between GDP per worker and the unskilled wage (y/wus) that has the advantage

¹² In practice, the income tax represents in today's Spain a tax on salaried incomes as 70 percent of evasion occurs among high incomes (Comín 2006).

¹³ Surprisingly, they rely on Alcaide (1976) crude estimates of Spain's national income ('an urgent revision', called his author) instead of using the available reconstruction of historical national accounts (Prados de la Escosura 2003).

¹⁴ Actually Alvaredo and Saez (2006) only have evidence for three single years (1961, 1971, 1981) to compute top income shares over 1962-1980. Furthermore, a break in the income tax series impedes Alvaredo and Saez to carry out a rigorous comparison with their inequality computations for 1981-2002.

¹⁵ Such result would contradict the association, suggested by Piketty and Saez (2006), between inequality decline and progressive taxation. The finding that increases in top income shares at the end of the twentieth century are associated to labour income concentration –top wage earners– is consistent, however, with the results for the English speaking countries obtained by Piketty, Saez, and their associates.

¹⁶ Alvaredo and Saez (2006) warn the reader that tax avoidance could be behind the striking inequality decline they find over 1935-61.

of being easily computable for most countries over long time spans.¹⁷ The rationale for y/wus is that while the numerator captures returns to all factors of production, the denominator only encapsulates returns to raw labour, whose property is far more widespread than that of any other factor and the only one that most poor possess in developing countries. It could be objected, however, that as societies develop and broad capital deepening takes place, the proportion of unskilled workers within the labour force dwindles and, consequently, the quantile of income they represent becomes only a fraction of the same quantile in the past. In this scenario comparisons over time tend to be inconsistent and inequality is, hence, exaggerated by y/wus .

A possible solution would be to use, instead, the average returns to all labour (w), including both skilled and unskilled workers, as the denominator in the inequality index.¹⁸ This alternative measure (y/w) is equivalent to the inverse of the share of labour compensation in national income under the assumption that the return per head of self-employed workers matches the average compensation of employees in their corresponding industry.¹⁹

As returns to unskilled workers represented most of labour compensation in national income until the second half of the twentieth century (Prados de la Escosura and Rosés 2007), it could be expected that inequality indices computed with either unskilled (y/wus) or average wages (y/w) hardly differ up to the 1950s. Thereafter, as skilled labour increased its share in national income while capital deepening occurred, large disparities between these alternative indices can be anticipated.²⁰ The two short-cut measures are confronted in Figure 1 and, as predicted, no major discrepancy between their trends is observed up to the

¹⁷ Ideally, each component would be normalized by the amount of hours worked and expressed in nominal terms, that is, nominal GDP per hour: unskilled nominal wage per hour. Using nominal instead of real GDP and wage avoids the use of deflators that may follow different trends as their composition is rather different. A similar measure was already used for the U.S. by Williamson and Lindert (1980).

¹⁸ In such a case, the inequality index would be defined as the ratio, in nominal terms, of GDP per hour worked to average wage per hour.

¹⁹ This assumption is made to compute factor shares in the case of Spain (Prados de la Escosura and Rosés 2007). The functional distribution of income has been used to measure inequality trends in Britain during the Industrial Revolution (Allen 2005), for Germany over 1850-1950 (Dumke 1988, 1991), and for a sample of Western European countries in (mostly) the twentieth century (Flora 1983). For a survey of the literature on factor shares in history, cf. Prados de la Escosura and Rosés (2003).

²⁰ An increase in income inequality between skilled and unskilled workers could be expected in the presence of capital-skill complementarity in production (Katz and Autor 1999).

mid-1950s.²¹ Henceforth, as physical and human capital deepening took place, a gap between the two inequality indices steadily opened up in the late twentieth century. A decline in y/w occurred between the mid-fifties and the mid-sixties that gave way to a mild though steady rise during the rest of the century; the Williamson index (y/wus), instead, experienced a sustained and dramatic increase since 1950. Thus, as the share of unskilled labour in the workforce is sharply cut down, the significance of y/wus as a measure of inequality fades away.

However, the share of labour compensation in national income provides a measure of inequality only in so far the dispersion within labour and property compensation does not change significantly.²² In the historical case of Spain, it has been argued, ownership of capital (and land) has historically been highly concentrated (Martin 1990).²³ If this were the case, a decline in the share of labour compensation in national income would indicate an increase in aggregate inequality. However, the assumption of stability in wage dispersion appears unrealistic. In fact, skilled labour increases its share within total labour force as countries develop and, consequently, one should expect an early phase of rising wage inequality and eventually a decline as the labour force becomes predominantly skilled (Kuznets 1955).

Frequently wage inequality is approached through wage gaps or skill premia. Skill premia and wage dispersion can, however, evolve in opposite directions. Figure 2 confronts a proxy measure for the skill premium: the ratio between the average and the unskilled wage (w/wus) –that, from 1954 onwards, overlaps with a skilled/unskilled wage ratio (wu/wus) –, with measures of wage dispersion (for the average wage across industries up to 1954 and, hereafter, also distinguishing four wage categories within each industry). Two phases can be established with the 1950s as the turning point. Wage gaps and wage dispersion largely provide the same trends (though with different intensity) during the early

²¹ It is worth noting that similar results are obtained by Dumke (1988: 20) for Germany, 1850-1913. Dumke interpreted the fact that skilled and unskilled labour shares did move along as contrary to the view that human (and physical) capital is a substitute for unskilled labour. The Spanish experience suggests, however, that the parallel evolution of y/wus and y/w is the outcome of the relatively small weight of skilled labour in total labour force prior 1950. Data for Spain comes from Prados de la Escosura and Rosés (2007).

²² According to Piketty (2003), in many countries, long-run wage inequality has been very stable so trends in income inequality have depended on income distribution changes between property and labour.

²³ A more uneven distribution of property than of labour incomes was suggested by Pigou (1920) (quoted by Dumke 1988: 12).

phase.²⁴ Since the 1950s they evolved in opposite directions: while the skill premium increased from the early 1960s up to the mid-1980 (and stabilized thereafter), wage dispersion declined from the early 1970s until 1990 (and reversed during the last years of the century). In other words, the fall in wage inequality is not precluded by the rise in the skill premium as the proportion of skilled workers within the labour force increases.²⁵

The comparison between the inverse of the labour share in national income (y/w) (Figure 1) and wage dispersion (Figure 2) shows a concurring rise in inequality from the mid-1890s to World War I and a decline between the mid-1950s and the mid-1960s. Otherwise, their discrepancies prevail. In the interwar years, wage dispersion rises while y/w falls. Conversely, between 1970 and 1995, wage inequality falls whilst the inverse of the labour share in national income increases steadily. If, in turn, wage dispersion is confronted with the evolution of Alvaredo and Saez (2006) top income share (Figure 3) it appears that both fell between 1936 and the late 1940s. Again, both measures are somewhat coincidental in the late 1950s and, again, in the late 1980s and early 1990s. The bottom line of these comparisons is, hence, that no conclusion about trends in total inequality can be reached unless its different components (the gap between property and labour returns and the dispersion within both property and labour) are taken on board.

But how can we assess the evolution of aggregate inequality in the ‘pre-statistical’ era? Most conventional inequality estimates for the post-1960 era are expressed using Lorenz curves and Gini coefficients. Furthermore, the calibration of poverty headcounts (next section) usually requires Gini indices. Branko Milanovic (2005: 20-2) provides a decomposition of the Gini coefficient that facilitates the estimation of historical inequality on the basis of scattered and miscellaneous information.²⁶ The Gini can be expressed, according to Milanovic (2005), as follows:

²⁴ My results are coincidental with those obtained by Betrán and Pons (2004) who find a steady increase in the skilled/unskilled wage ratio from the late nineteenth century up to 1930. Alternative and more complete estimates by Rosés and Sánchez-Alonso (2004) point to a sharp decline in (purchasing power parity adjusted) rural-urban wage gap between mid-nineteenth century and World War I, that deepened until 1920 and stabilized thereafter, while the skilled/unskilled wage gap followed a similar pattern. Such a discrepancy calls for further research.

²⁵ It is customary, however, to rely on the gap between skilled and unskilled wages to draw wage inequality trends. Cf. Brenner, Kaelble, and Thomas (1991) and Morrisson and Snyder (2000)

²⁶ I have carried out alternative inequality estimates, following Morrisson (2000), with decomposable entropy indices such as the Mean Logarithmic Deviation (MLD) or the Theil. The results obtained are highly coincidental with those derived from the Gini coefficient and are available from the author upon request.

$$Gini = \sum G_i p_i \pi_i + \sum ((y_p - y_l) / y_l) \pi_l p_p + L \quad [6]$$

Where the first part of the right hand term, $\sum G_i p_i \pi_i$ (Gini A, hereafter) is a weighted sum of within-group inequality –in our case, inequality within labour and property returns. Each group (i) is represented here by its own Gini coefficient (G) and weighted by the group's shares in population (p_i) and in national income (π_i).

It is necessary, then, to determine the shares in national income and in population of those who get returns exclusively from either labour or property. National accounts distinguish between wages and salaries, property incomes and mixed incomes (those accruing from both labour and capital). The challenge here is to establish which proportion of the income of the self-employed (including proprietors, unpaid family workers, and retired workers) represents returns to labour. Colin Clark (1957) and Simon Kuznets (1966) favoured the approach of attributing to entrepreneurs and self-employed workers a labour income per head equal to employees' compensation per worker. Prados de la Escosura and Rosés (2007) followed their lead and, for the Spanish case, they assumed a return per head to non-wage labour identical to wage earners in the same industry (and, after 1954, within the same category) and derived the total income accruing to labour by dividing total wages and salaries by the share of wage earners in the labour force.²⁷ Property income was obtained, then, as a residual by deducing labour income from GDP, and represents, hence, the returns to all factors of production but labour.²⁸

The decomposition of the population between those receiving returns for their work and those for their property presents an additional challenge. Unfortunately, modern, post-1954 national accounts only distinguish between wage and non-wage earners in total employment. It is necessary, however, to split up the population into the 'equivalents' of those whose income exclusively accrues from property or from labour, avoiding any overlapping between the two groups. A crude and arbitrary procedure has been used. For the period 1954-2000, I first computed the proportion of property income in non-wage incomes (that is, total incomes accruing to property and to self-employment) and, then, I applied this ratio to the share of non-wage earners in total labour force in order to get a

²⁷ Actually, for the period 1850-1954, total labour income was obtained multiplying the annual hours worked per year and person by the wage rate per hour in each industry.

²⁸ Similar procedures were used by Hoffmann et al. (1965: 506-9) and Matthews et al. (1982: 164-72) for the cases of Germany and the United Kingdom, respectively.

rough proportion of ‘equivalent’ property owners (that is, the share of population whose income comes exclusively from property).²⁹ As for the hundred years before 1954, population censuses only provide figures of proprietors for three odd years: 1860, 1920, and 1950, I interpolated exponentially their corresponding figures and the ones for 1954 to obtain crude annual figures for property owners and computed its proportion in total labour. Finally, I derived the share of the ‘equivalent’ population whose returns derived exclusively from labour as a residual for the entire time span 1850-2000.

The dispersion of labour returns has been proxied by wage inequality. I have been able to estimate wage income concentration across industries over 1850-2000. Dispersion of average wages across main branches of economic activity (19 up to 1900, 21 over 1900-54, and 24 since 1954) has been computed. For 1954-2000 I was able to estimate wage inequality across 24 branches of economic activity in which four occupational categories are considered within each industry (unskilled, skilled operatives, technicians, and managers).³⁰ These alternative inequality measures show very close results and in order to derive a single measure I spliced them using their ratios in the overlapping years.

In the case and of property incomes, lack of direct evidence led me to estimate its dispersion by alternatively assuming: a) that it was high but constant over time, with an arbitrary value of 0.7, more twice as high as the peak for wage dispersion, 0.32; and b) that evolved along wage inequality but at a higher level. Since the highest wage inequality corresponds to 1935, I allocated 0.7 to that year and moved it through time along wage dispersion. Interestingly, the resulting values for Gini A are practically identical under these alternative specifications (Figure A-1), although I will focus on option (b) that, in my view, is a more plausible conjecture.

The second element, $\sum ((y_p - y_l) / y_l) \pi_l p_p$ (Gini B, henceforth), corresponds to between-group inequality. Groups are ranked according to their mean income, so property owners (y_p) always appear above those getting labour returns (y_l) and their relative distance $((y_p - y_l) / y_l)$ is weighted by the product of the labour returns’ share in national income (π_l) and the property owners’ share in population (p_p). Finally, (L) is the overlapping component, or residual, and it accounts for the fact that someone who is a property owner

²⁹ Sensitivity tests of the assumptions introduced in these estimates are presented below.

³⁰ Wage data comes from Prados de la Escosura and Rosés (2007).

may still have a lower income than someone getting labour returns.³¹ Since I cannot compute the overlapping (L) directly, the following procedure has been used. If one makes the reasonable assumption that the lower the gap between returns per head to property and labour, that larger the relative importance of (L), the problem is reduced to establishing its size. A possibility is to derive it as a residual by deducing the sum of Gini A and B estimates from direct computations of total Gini at benchmark years. Direct Gini estimates for Spain on the basis of microdata from household surveys are available for 1973/4, 1980/1, 1990/1, and 2001 (Goerlich and Mas 2001, 2004).³² Thus, the value of (L) derived for 1973/4 was backwards projected to 1850 with the ratio (y_l/y_p) normalized for 1973/4 = 1. For the 1973-2000 period, a single series was derived through a variable weighted geometric average from alternative estimates of (L) which result from projecting each available Gini benchmark (1973/4, 1980/1, 1990/1, 2001) over time with the ratio (y_l/y_p) normalized for each benchmark.

The sensitivity of the estimates to the underlying assumptions has been tested. Since it is commonly accepted that income property was highly concentrated in Spain, it could be argued that the average proprietor was wealthier than the average person receiving non-wage income, and, that, consequently, my approach overstates the number of proprietors in Spain. In order to check this possibility I have computed an alternative Gini in which the share of property owners in population was assumed to represent just one half of the previously estimated. As it can be observed in Figure A-2, the results cast a slightly higher level of inequality but the same evolution over time. A second test has been computing Gini coefficients making alternatively the distinction between wage and non-wage earners, and between labour and property income, for the period 1954-2000. The results are highly concurrent (Figure A-3).

³¹ It should be kept in mind, that, by construction, those who obtain returns from property (labour) do not receive any from labour (property).

³² When several available Gini estimates are available for a given benchmark year significant discrepancies are observed for most countries (Deininger and Squire 1996, WIDER 2005) and procedures have been suggested to reconcile cross-section and time-series estimates (Atkinson and Brandolini 2001, Francois and Rojas-Romagosa 2005). Here I will only consider directly computed Gini on the basis on microdata derived from household surveys by Goerlich and Mas (2001) from 1973/4 onwards. Alcaide (1999) presents Gini estimates since 1964 which depart significantly from the rest of the available estimates. As the author does not provide full details of its computation, I decided not to use them in my computations.

Trends in aggregate inequality and their components are presented in Figure 4. Needless to say, they just represent a set of explicit hypotheses about the evolution of income distribution in modern Spain.

A common picture emerges from these alternative inequality measures. The evolution of inequality presents the shape of a wide inverted W with peaks in 1918 and 1953 that, perhaps, could be part of one big Kuznets curve broken by the Civil War and its autarchic aftermath. In fact, when inequality is plotted against real per capita income, a single Kuznets curve appears (Figure 5), as the upwards reversal of the post-Civil War years took place at lower income levels than the inequality decline observed for the Interwar period (Figure 4).³³ The Kuznets curve seems to have been completed by the late-1960s when inequality reached the level within which it fluctuated during the late twentieth century.

Different phases appear in the evolution of inequality. A long-term rise is observed during the early phase of globalization that peaked by the end of World War I. A closer look distinguishes up to four different phases underlying the upward trend. Inequality fell during the 1850s and the early 1860s and, again, from the mid-1880s to the mid-1890s, while it went up between the mid-1860s and early 1880s and from the late 1890s up to the end of the Great War. The interwar period shows a sustained reduction in inequality cut short by the Civil War (1936-39) and sharply reversed during the autarchy years to peak in 1953. After a dramatic fall during the second half of the 1950s inequality exhibited a steady though mild reduction up to 1980, to stabilize and, then, to rise again in the 1990s.³⁴

It is worth pointing that the inequality trends described here are highly coincidental with those obtained from non-income indicators. Using heights, Gloria Quiroga and Sebastián Coll (2000) show a long term increase in inequality among socio-professional groups between the turn of the century and World War I, a decline up to the eve of the Civil War, and a resumption of inequality during the autarchic 1940s.

³³ In Figure 5, my proxy for the Gini coefficient has been plotted against the natural logarithm of real GDP per head, expressed in 1990 Geary-Khamis dollars to make it comparable internationally. Real GDP series come from Prados de la Escosura (2003) and the benchmark level for 1990 from Maddison (2003).

³⁴ These results conflict with the dramatic inequality contraction found by Alcaide (1999) during the early years of the transition from dictatorship to democracy, in which Gini values went down from 44.6 in 1973/4 to 36.3 for 1980/1.

How can these inequality trends be interpreted? Different hypotheses have been put forward in the literature. External shocks and progressive income tax have been emphasized as major determinants of inequality trends by Piketty and Saez (2006). Specifically, World Wars and the Great Depression affected negatively the top incomes share in national income (in particular, capital income concentration) while progressive taxation did not allow its recovery. Significant changes, not always coincidental with those taking place in Western Europe, occurred in Spain during the period 1914-1950. Moreover, the potential impact of progressive taxation was reduced by its delayed introduction in Spain (1979).³⁵

World War I represented a major shock for Spain: relative prices changed so dramatically that may have affected income distribution (Prados de la Escosura 2003, Rosés and Sánchez-Alonso 2004). The increase in inequality in Spain during World War I has also been found in other neutral countries (Denmark and the Netherlands) as profits rose due to increases in foreign demand and import substitution, while wages did not keep up with rising prices (Morrisson 2000: 249). This evolution is at odds with that of belligerent countries during World War I. Moreover, the fall in income inequality resulting from ‘destruction, inflation, bankruptcies, and fiscal shocks for financing wars’ (Piketty and Saez 2006: 203) that occurred in France, Japan, or the U.S. is missing after World War II in non-belligerent Spain, where the decline in inequality that followed the Great Depression was more than offset by the re-distribution of income towards property owners after the Civil War. In Spain, the behaviour of top income shares does not explain the evolution of total inequality over 1948-53 (Figure 6). In fact, it could be argued that, the rise in total inequality during the post-World War II years was not determined by changes in the concentration of capital income –that would have fallen, according to the decline in top income shares (Alvaredo and Saez 2006)-, but by an increase in the share of property income within total income. Thus, the distinction between Spain, where the civil war had a divisive effect, and most western countries, where world wars tended to increase social cohesion, may be relevant to understand the postwar era.

³⁵ It is worth mention that Piketty and Saez (2006) wondered about the fate of countries which experienced shocks but not progressive taxation. Actually, Spain provides a good example until 1980.

The hypothesis that differences between returns to property and to labour dominate the trends in total inequality can be further substantiated. Figures 7 and 8 compare the evolution of my proxy Gini estimates with the two aggregate inequality indices: the Williamson Index (y/wus) and the inverse of the labour share in national income (y/w). A close correlation is found with the Williamson Index over 1850-1954, while a significant association with the inverse of the labour share in national income seems to exist across the one and a half centuries examined. These results (in need of further confirmation for other countries) suggests that Williamson was right when he proposed y/wus as a short-cut measure of inequality for developing countries, as changes in inequality in pre-1950 Spain mainly stem from differences between returns to property and unskilled labour. Furthermore, the Spanish experience insinuates that y/w provides a rough and ready measure of inequality over the long run; in other words, that trends in the functional distribution of income provide a reasonable proxy for those in the distribution of personal income.³⁶

It should not be forgotten that, as Christian Morrisson (2000: 251) points, the institutional design traditionally guaranteed rents to proprietors but not to unskilled workers. Tariff protectionism could be interpreted in this light. The Stolper-Samuelson model can be used, then, to provide explicit hypotheses about inequality trends (Williamson 2002). Does this model satisfactorily apply to the case of Spain?

The fall in inequality during phases of opening up to international competition (the late 1850s and early 1860s, the late 1880s and early 1890s) and the rise in inequality (from the late 1890s to the end of World War I) coinciding with a return to strict protectionism, could be predicted within a Stolper-Samuelson (1941) framework which posits that protectionism favours the scarce factors (land and capital, in this case) while penalizes the abundant one (labour). In Spain, at the turn of the nineteenth century, Stolper-Samuelson forces would have been reinforced by the fact that tariff protection did not push out workers as in other protectionist European countries (i.e., Italy and Sweden). The depreciation of the peseta in the 1890s and early 1900s made more difficult the migration decision as the cost of passage increased dramatically (Sánchez-Alonso 2000). The Stolper-

³⁶ A similar finding was obtained for Germany over 1850-1950 by Dumke (1991). This result is at odds with the rejection of this indicator on the grounds that as physical and human capital substitute for raw labour they

Samuelson model fails, however, to explain the rise in inequality between the mid-1860s and early 1880s.³⁷

The reduction in inequality during in the 1920s and early 1930s, a period of globalization backlash, would not be consistent within a Stolper-Samuelson framework.³⁸ Other major forces conditioned the evolution of inequality. Accelerated growth, capital deepening, and structural change all helped reducing total inequality in the 1920s. Wage inequality rose with rural-urban migration and urbanization, given that urban wages were higher and with a larger variance than rural wages -as predicted in the Kuznets (1955) model-, but the gap between returns to property and labour declined.³⁹ Institutional reforms that included new social legislation, especially the reduction in the number of working hours per day, and the increasing voice of trade unions, contributed to a rise in wages relative to property incomes (Cabrera and del Rey 2002, Comín 2002).

The fall in inequality during the early 1930s, with increasing restrictions to commodity and factor mobility, is, again, at odds with the Stolper-Samuelson view. Forces pushing for re-distribution were in place in Spain. On the whole, a reduction in the gap between returns to property and labour more than offset the rise in wage inequality. The Great Depression possibly had a negative impact on top income shares by reducing property income concentration, as Piketty and Saez would expect.⁴⁰ Wages (nominal and real) certainly rose in a context of trade unions' increasing bargaining power and labour unrest.⁴¹ In the early 1930s, a new legislation that tended to increase labour costs, threats to land ownership, and attempts to factory control by workers created insecurity among

should evolve differently.

³⁷ Perhaps it was the outcome of a rise in capital and land returns relative to wages due to the intense capital deepening associated to the railroads construction and to the exploitation of the mining resources after its liberalization, and by an increase in land rents linked to the agricultural export boom (and exacerbated by French imports of wine after the phylloxera plague).

³⁸ Conventionally the 1920s are depicted as years of intense isolation. However, this is no longer the prevailing view, as trade protectionism in the twenties was paralleled by substantial foreign capital inflows that broke the close link between investment and saving (Prados de la Escosura 2007c).

³⁹ On rural-urban migration, see Silvestre (2005). Urbanization figures are provided in Tafunell (2005).

⁴⁰ Alvarado and Saez (2006) observe, however, an increase in top income shares for 1933-35.

⁴¹ The increase in the number of days lost due to strikes rocketed during the II Republic, reaching 0.64 percent of the days worked in 1933, a figure slightly above that of the peak year (1979) during the 'transition to democracy', (0.56 percent). Estimates computed with days of strike from Maluquer de Motes (2005) and total days worked per year from Prados de la Escosura and Rosés (2007). Wage data comes from Maluquer de Motes (2005).

proprietors leading to a severe investment collapse and provoked a polarization in Spanish society (Comín 2002: 294-5, Cabrera and del Rey 2002: 221-35).⁴²

How could the evolution of inequality during the post-Civil War, autarchic years (1939-53) be interpreted? After the inequality reduction resulting from the war itself and from the pro-labour policies of the II Republic, Franco's victory turned the balance away, and in doing so 'overshoot' some 'normal' ratio between property and labour incomes. Wage compression took place as a result of the re-ruralisation of Spanish economy (the share of agriculture increased in both output and employment) and the ban on trade unions. Simultaneously, a parallel decline in the 0.01 percent top income shares during the 1940s took place (Alvaredo and Saez 2006). Thus, while inequality was falling within both labour and capital returns, polarization between property and labour caused a rise of total inequality.⁴³ International isolation, resulting from autarchic policies would intensify these trends, as inequality would have risen as scarce factors, land and capital, were favoured at the expense of the abundant and more evenly distributed factor, labour.

A dramatic decline in inequality occurred during the mid- and late 1950s, that is, prior to the conventional phase of liberalization and opening up that followed the 1959 reforms (Prados de la Escosura and Sanz 1996). The accelerated growth that took place between 1953 and 1959 and its associated structural change, in a sort of postwar delayed reconstruction (Prados de la Escosura 2007a), parallel to a gradual opening up cautiously initiated with the U.S.-Spain cooperation agreements in 1953 (Calvo 2001), may have triggered the inequality collapse.⁴⁴

It appears, then, that not only international economy forces played a role in reducing inequality during the second half of the twentieth century. Growth and structural change played a non-negligible part. The rise in savings, helped by the financial development that went together with economic growth (Comín 2007, Martín Aceña and Pons 2005), facilitated access to housing ownership which, in turn, helped reducing the concentration of property incomes. The diffusion of education (Núñez 2005) surely played a role in the

⁴² Between 1929 and 1936, gross domestic capital formation was cut by half in real terms (and to one-fourth in the case of investment in dwellings), while its share in nominal GDP fell from 16.9 in 1929 to 11.9 in 1936 (Prados de la Escosura 2003).

⁴³ On the concept of polarization, cf. Esteban and Ray (1994).

⁴⁴ It is worth recalling the wage rise across the board introduced by the Francoist authorities in 1956 (Barciela 2002) that surely influenced income distribution.

decline of inequality by reducing the concentration of human capital. Furthermore, the decrease in regional disparities, conditioned by technological catch-up, the generalization of basic education, and the spatial redistribution of employment (de la Fuente 2002), must have also impinged on income distribution.⁴⁵

Perhaps the coincidence between the social policies of the late Francoism and the cautious opening up of the economy could be interpreted in terms of an association between exposure to international trade and the weight of the government sector (Rodrik 1997). Even though the modern welfare state was not fully introduced in Spain until the transition to democracy, social expenditures increased already in the late Francoism (1960-75) and must have had an effect on reducing inequality. The share of social expenditure in GDP (excluding education) went up from 5.9 to 12.5 percent in the last decade of Francoism representing a partial catching up with Western Europe's share (Bandrés 1999).

Increasing political participation after democracy was reinstated in 1977 led to a progressive fiscal reform and to substantial increases in public expenditure on social transfers (unemployment, pensions), education, and health that had a strong redistributive impact and triggered a further inequality reduction (Gimeno Ullastres 1999). The share of social expenditure in GDP reached 19.6 percent in 1981 and peaked in 1993 (26.7 percent) (Bandrés 1999). Public expenditure on welfare (including education) almost doubled its share in GDP during the first two decades of democracy. Political decentralization of spending decisions also had an impact on the inequality decline (Goerlich and Mas 2004).

How does the case of Spain compare to other historical experiences? Estimates for aggregate income inequality over the long run are only available for a few O.E.C.D. countries (Flora 1983, Kaelble and Thomas 1991, Morriison 2000).⁴⁶ Denmark, Norway, Italy, and the U.K. have Gini estimates going back to the late nineteenth century, as do Japan and the U.S. outside Europe. Some crude historical estimates of inequality for Latin America are also available (Prados de la Escosura 2007b). There are, however, problems of comparability among Gini estimates constructed using different kind of data that have

⁴⁵ In fact, the moderate decline in regional dispersion of per capita incomes during the early twentieth century that had been reversed after the Civil War (1936-39) (Prados de la Escosura 1992, Domínguez 2002) intensified since the mid 1950s to stabilize during the last two decades of the twentieth century (Cuadrado Roura 1999).

⁴⁶ Without taking into account the massive work produced by Atkinson, Piketty, Saez, and associates, as they concentrate on top income shares.

led to focus on trends rather than levels (Gottschalk and Smeeding 2000: 285). Hence, the historical evidence on Gini estimates I am presenting for a handful of countries should be taken with a grain of salt. Figure 9 indicates that Spain matched the behaviour of OECD countries except for the autarchic period that followed the Civil War.⁴⁷ Interestingly, the comparison with Italy in the twentieth century shows the latter as a case of more benign development. The contrast with the case of Latin America is illuminating (Figure 10).⁴⁸ Contrary to the usual assumption of high and enduring inequality in Latin America since the colonial times, an upward trend up to the 1960s brought inequality to the high plateau where it stabilized for the rest of the twentieth century. Spain and Latin America followed similar patterns until the mid-1950s, when Spain shifted away to converge towards OECD inequality levels.

Calibrating Absolute Poverty

How do the exposed trends in inequality and economic growth impinge on poverty reduction over the last century and a half? In this section no attempt is made to measure accurately the extent to which poverty is reduced but to calibrate, in a heuristic exercise, plausible trends in absolute poverty from which hypotheses for further research could be derived.

I will focus on the absolute growth of the incomes of the poor (Ravallion and Chen 2003) rather than on whether they experienced a relatively disproportionate growth (Kakwani and Pernia 2000) and, therefore, the evolution of absolute poverty will be defined with reference to a fixed international poverty line.

If a fixed poverty line (PL) is conventionally defined at \$2 (expressed in 1985 purchasing power adjusted international dollars) per person and day, it was not until 1900 that average incomes (as measured by per capita GDP) doubled the poverty line in Spain. If we have in mind the results from recent empirical research in developing countries (for example, Bourguignon 2002, Klasen 2004, López 2004, Ravallion 1997, 2004) such a low level of development probably hampered the impact of growth on poverty reduction

⁴⁷ Data on Gini coefficients for OECD countries come from WIDER and Deininger and Squire (1996, updated) completed with Flora (1983) and Morrisson (2000) for Denmark and Norway, Rossi, Toniolo, and Vecchi (2001) for Italy, Lindert (2000) for the U.S.A., Lindert (2000) and Williamson (1985) adjusted to Lindert's revision (<http://www.econ.ucdavis.edu/faculty/fzlinder/Massie1759rev.htm>) for the U.K.

⁴⁸ *LatAm* 4, 6, 15, and 16 represent the number of countries included in different samples of Latin American countries. See Prados de la Escosura (2007b).

(Deininger and Squire 1998). In the ongoing debate on pro-poor growth few views are shared. One of them is that the higher the initial level of inequality, the lower the reduction in poverty for a given rate of growth in GDP per head. Thus, poverty reduction would depend on the initial level of average income and its subsequent growth, on the initial income distribution and its evolution over time, and on how sensitive poverty is to growth and inequality changes (Bourguignon 2002, Ravallion 2004, López and Servén 2006).

How much impact did average incomes growth and distribution changes have on absolute poverty in the case of Spain? During the nineteenth century and up to World War I low per capita income and increasing inequality may have drastically reduced the impact of economic growth on poverty. High initial inequality would have also mitigated the effect of the acceleration in economic activity on poverty during the 1920s, as it would have been the case during the 1953-58 growth recovery. Moreover, faltering growth in the early 1930s presupposes that falling inequality had a weak effect on poverty reduction. The unprecedented growth of the 1959-74 years suggests, however, that once the low initial income constraint has been removed, the impact on poverty would be noticeable.

Can these conjectures be put to the test? Unfortunately, no microeconomic data are available on Spain's household expenditures to compute poverty levels and trends before the late twentieth century. In these circumstances, François Bourguignon and Morrisson's (2002) assumption that income distribution remained unaltered in Spain from the early nineteenth to the mid-twentieth century is very appealing. In such a case, it would suffice to know the growth rate of GDP per head to assess the evolution of absolute poverty over time. In fact, recent research indicates that a large proportion of long-run changes in poverty are accounted for by the growth in averages incomes (Kraay 2006), and, hence, emphasizes the protection of property rights, stable macroeconomic policies, and openness to international trade as simultaneous means to achieve growth and suppress absolute poverty (Klasen 2004, OECD 2004). Assuming a one-for-one reduction in poverty with per capita GDP growth seems, however, a gross misrepresentation⁴⁹ and, thus, I have preferred to rely on the macroeconomic evidence on growth and changes in income distribution

⁴⁹ Ravallion (2004) has proposed to associate poverty changes to economic growth using the expression: *Rate of poverty reduction* = [*Constant* * (1 - *Inequality index*) ^{θ}] * *growth rate*. In which the constant is negative (-9.3 in Ravallion's example) and the aversion coefficient θ is not less than one (Ravallion suggests $\theta = 3$).

presented in the two previous sections to propose conjectures about historical trends in absolute poverty.

I have calibrated the impact of growth and inequality changes on absolute poverty for the case of Spain on the basis of Humberto López and Luis Servén's (2006) recent empirical research that expands previous research by Bourguignon (2002), Martin Ravallion (1997, 2004), and Aart Kraay (2006) and draws on the largest micro database available so far, for a wide sample of developing and developed countries over the last four decades. Using a parametric approach López and Servén (2006) find that the observed distribution of income is consistent with the hypothesis of log-normality. Under log-normality, the contribution of growth and inequality changes to poverty reduction only depends on the poverty line/average incomes ratio, and on a measure of inequality (the Gini coefficient). The poverty headcount, P_o , that is, the share of population below the poverty line, is derived as,

$$P_o = \Phi (\log (z /v)/\sigma + \sigma/2), \quad [7]$$

$$\text{where } \sigma = \sqrt{2} \Phi^{-1} ((1 + G)/2) \quad [8]$$

in which Φ , is a cumulative normal distribution; v , the average per capita income; z , the poverty line; σ , the standard deviation of the distribution; and G , the Gini coefficient.

Thus, all I need to calibrate the poverty headcount is the poverty line/average income ratio and the Gini coefficient. Unfortunately, as discussed in the previous section direct Gini estimates are only available for the last quarter of twentieth century so I had to rely on my proxy estimates for most of the one and a half century considered.

A long run decline in absolute poverty is the main feature of the evidence presented in Figure 11. Poverty reduction occurred, nonetheless, at different speed over time -a result that supports the view that the impact of growth on poverty is weakened in the presence of rising inequality and low initial levels of development-, while once the initial income constraint is released, its effect heightens (Table 2, col. I). A major contraction took place between 1850 and 1880 that stabilized and, then, reverted its trend to peak during World War I. Growth underlies the fall in absolute poverty over the third fourth of the nineteenth century as inequality did not change substantially. Sluggish growth and rising inequality explain the increase in absolute poverty over 1880-1920. The Interwar's sharp decline in absolute poverty was the combined outcome of a sustained fall in inequality and the fast

growth of the 1920s. This constitutes a counterintuitive result, as an association between staggering inequality and extreme poverty and the break up of the Civil War has been hinted, though never proved, in the literature (cf. Pérez Ledesma 1990 and Payne 1993). During the Francoism's early years (1939-53) rising inequality and poor economic performance brought the share of those below the poverty line to pre-1920 levels. Conversely, the late period of Franco's dictatorship appears as a benevolent epoch of falling inequality and increasing per capita income which jointly eradicated absolute poverty by the mid-1960s.

A glance at Figure 4 might suggest, however, that given the similar level of inequality in the mid-nineteenth and the late twentieth century, growth by itself would explain the eradication of absolute poverty. Was this the case? To provide an answer I have carried out a counterfactual exercise in which poverty reduction is computed keeping inequality constant at high level, that of 1950. The results for the calibrated and the counterfactual poverty headcounts are offered in Figure 12 while their respective rates of poverty reduction are offered in Table 2. It turns out that although economic growth was the main force behind the long run fall in absolute poverty, during some episodes of intense poverty decline a significant contribution came from the rapid decline in inequality (late 1920s-early 1930s, late 1950s).

The case of Spain presents interesting analogies and differences with Latin America. Spain shadowed the evolution of Latin American poverty until the 1950s, when inequality levels in Spain departed from those prevailing in Latin America and initiated a fast convergence towards OECD patterns.⁵⁰ Thus, the growth of per capita income had a higher payoff in terms of absolute poverty suppression in Spain than in Latin America where the poverty headcount remained still high by the end of the twentieth century.⁵¹

⁵⁰ I have carried out a calibration, similar to the one I did for Spain, for the sample of OECD countries included in Figure 11 which suggests that absolute poverty had been suppressed (that is, it represented less than 1 percent of the population) in the U.S., the U.K., Denmark, and Norway by 1950 and in Italy and Japan by 1960 and 1965, respectively (the latter the same date as in Spain).

⁵¹ According to my calculations using the same approach, those living on 1985 \$ 2 or less by 1990 represented 17 percent of the population in Colombia, 15 percent in Brazil, 11 percent in Chile, and had only be eradicated in Uruguay. Meanwhile the poverty headcount ranged between one-third and half the population in most Central America and Bolivia. My estimates are significantly lower, though, than Székely's (2001) direct computations.

Alas, the controlled conjectures about absolute poverty behaviour in Spain over the long run cannot be confronted with hard empirical evidence except for the late twentieth century. The inequality reduction since the late 1970s was accompanied by an expansion in average expenditure during the 1980s. As a result, welfare increased, in real terms, between 37 and 51 percent during 1973-1991 (Ruiz-Castillo and Sastre 1999). Using a fixed poverty line -equivalent to 50 percent of average expenditure in 1973/74-, Coral del Río and Javier Ruiz-Castillo (1999: 439-440) show a significant decline in the proportion of the poor for the late twentieth century: the absolute poverty headcount fell -in per capita expenditure terms- from 22.2 percent of the population in 1973/74 to 15.1 percent in 1980/81, and to 5.1 percent in 1990/91. Thus, the trends derived from the historical calibration of absolute poverty are not at odds with the findings of empirical studies on the basis of microdata.

Concluding Remarks

In Spain inequality rose during the late nineteenth century and up to World War I, reversed during the Interwar years, witnessed an upsurge in the post-Civil War autarchy, and fell since the mid-1950s until the 1980s. Its contrast with Latin America offers a parallel long-run evolution up to mid-twentieth century when Spain deviated to converge towards OECD levels. However, Spanish inequality diverges from the western European pattern -at least, if one accepts the picture recently drawn by Atkinson, Piketty, Saez, and their associates-, as it fits a Kuznets curve, world wars increased it -although did not have permanent effects-, and progressive taxation only had an impact since 1980.

In modern Spain no trade off between inequality and growth is observed. In its most dynamic phases, inequality declined (the 1920s, the Golden Age) but also increased (1850-83), while in years of sluggish performance, inequality deepened (1880s-1920, the post-Civil War autarchy) though it shrank too (during the II Republic, 1931-36, and the transition to democracy, 1976-85). Furthermore, economic growth and declining inequality had dramatically different outcomes during the world crisis of the 1930s and 1970s: political and social strife leading to civil war in the former, democratic stability and social consensus in the latter.

Absolute poverty experienced a long run decline. Growth prevailed over falling inequality as the main cause of poverty reduction, but a more egalitarian income

distribution played a non negligible part in crucial phases of absolute poverty declined. The contrast with Latin America reveals that thanks to a lower degree of initial inequality, Spanish economic growth in the late twentieth century had a much larger payoff in terms of absolute poverty alleviation.

From this preliminary and highly conjectural assessment of modern Spain's experience, some hypotheses about the connections between growth, inequality, and social conflict emerge. Attempts to introduce institutional and social reforms during the II Republic (1931-36) were accompanied by increasing social turmoil and political unrest that led to General Franco's uprising and to the Civil War (1936-39). Were there economic causes of the War of Spain? Was there a war of attrition on income and wealth distribution at the roots of the Spanish Civil War (Boix 2004)? The fact that it broke off after one and a half decades of inequality decline and poverty alleviation demands new explanatory hypotheses. Unfulfilled expectations to share increases in wealth by those at the bottom of the distribution may contribute, perhaps, to explain the social unrest that preceded the Civil War. Furthermore, the shrinking gap between returns to property and to labour in a context of social unrest, including threats to property, during the early 1930s provides a potential explanation for the support lent by a non negligible sector of the Spanish society to the military coup d'etat that triggered the Civil War.

The outcome of the Civil War, Franco's long-lasting dictatorship (1939-75), encompassed two distinctive phases: autarchy and sluggish growth, in the first one; cautious liberalization and fast economic progress, in the second. My conjectural estimates suggest that a dramatic increase in inequality, possibly a consequence of the Civil War, together with sluggish growth, resulted in stunning poverty, with one out of four Spaniards below the poverty line by the early 1950s. A benevolent picture emerges, in turn, from the mid-1950s onwards since as income distribution became more egalitarian and growth accelerated, absolute poverty was practically suppressed by the mid-1960s. Perhaps the successful transition to democracy in the last quarter of the twentieth century had its roots there.

References

- ALCAIDE INCHAUSTI, J. (1976). Una revisión urgente de la serie de renta nacional en el siglo XX. In *Datos básicos para la historia financiera de España*. Madrid: Instituto de Estudios Fiscales. II, pp. 1126-50.
- ALCAIDE INCHAUSTI, J. (1999). Distribución sectorial, factorial y personal de la renta. In J.L. García Delgado (ed). *España, Economía: Ante el siglo XXI*. Madrid: Espasa, pp. 457-81.
- ALLEN, R.C. (2005). A pessimist's model of growth and inequality during the British Industrial Revolution. Nuffield College, University of Oxford (mimeo).
- ALVAREDO, F., SAEZ, E. (2006). Income and wealth concentration in Spain in a historical and fiscal perspective. CEPR Discussion Paper 5836.
- ATKINSON, A.B., BRANDOLINI, A. (2001). Promise and pitfalls in the use of 'secondary' data-sets: income inequality in OECD countries as a case study. *Journal of Economic Literature* **39**, 3, pp. 771-99.
- ATKINSON, A.B., PIKETTY, T. (2007). *Top Incomes over the Twentieth Century*. Oxford: Oxford University Press.
- BANDRÉS, E. (1999). Gasto público y estructura del bienestar: el sistema de protección social. In J.L. García Delgado (ed). *España, Economía: Ante el siglo XXI*. Madrid: Espasa, pp. 631-60.
- BARCIELA, C. (2002). Guerra Civil y primer franquismo. In Comín, F., Llopis, E., Hernández, M. (eds). *Historia Económica de España. Siglos X-XX*. Barcelona: Crítica, pp. 331-67.
- BETRÁN, C., PONS, M.A. (2004). Skilled and unskilled wage differentials and economic integration, 1870-1930. *European Review of Economic History* **8**, 1, pp. 29-60.
- BOIX, C. (2004). Spain: Development, democracy and equity. IBRD World Development Report 2006 Background Paper.
- BORDO, M.D., ROCKOFF, H. (1996). The Gold Standard as a 'good housekeeping seal of approval'. *Journal of Economic History* **56**, pp. 389-428.
- BOURGUIGNON, F. (2002). The growth elasticity of poverty reduction: explaining heterogeneity across countries and time periods. Delta Working Papers 2002-03.
- BRENNER, Y.S., KAEUBLE, H., and THOMAS, M. (eds) (1991). *Income Distribution in Historical Perspective*. Cambridge: Cambridge University Press.
- CABRERA, M., del REY REGUILLO, F., 2002. *El poder de los empresarios. Política y economía en la España contemporánea (1875-2000)*. Madrid: Taurus.

CALVO, O. (2001). ¡Bienvenido Mr Marshall! La ayuda económica americana y la economía española en la década de 1950. *Revista de Historia Económica* **18** (special issue), pp. 253-75.

CARRERAS, A. (1987). An annual index of Spanish industrial output. In Sánchez-Albornoz, N. (ed). *The Economic Modernization of Spain, 1830-1930*. New York: New York University Press, pp. 75-89.

CARRERAS, A. (1992). La producción industrial en el muy largo plazo: una comparación entre España e Italia de 1861 a 1980. In Prados de la Escosura, L., Zamagni, V. (eds). *El desarrollo económico en la Europa del sur: España e Italia en perspectiva histórica*. Madrid: Alianza, pp. 173-210.

CLARK, C. (1957). *The Conditions of Economic Progress*. 3rd ed. London: Macmillan.

COMÍN, F. (1996). *Historia de la Hacienda pública, II España (1808-1995)*. Barcelona: Crítica.

COMÍN, F. (2002). El período de entreguerras (1914-1936). In Comín, F., Llopis, E., Hernández, M. (eds). *Historia Económica de España. Siglos X-XX*. Barcelona Crítica, pp. 285-329.

COMÍN, F. (2006). Reaching a political consensus for tax reform in Spain: The Moncloa pacts, joining the European Union and the best of the journey. Georgia State University, Andrew Young School of Policy Studies, International Studies Program Working Paper 06-01.

COMÍN, F. (2007). The Spanish savings banks and the competitive cooperation model (1928-2002). Universidad Carlos III Working Papers in Economic History 07-09.

CRAFTS, N. (2000). Globalization and growth in the twentieth century. International Monetary Fund Working Paper 00/44.

CUADRADO ROURA, J.R. (1999). Convergencia versus divergencia de las disparidades interregionales en España. In Maravall Herrero, J.M. (ed). *Dimensiones de la desigualdad*. Madrid: Fundación Argentaria/Visor, pp. 209-49.

CUBEL MONTESINOS, A., PALAFOX GÁMIR, J. (1998). La continuidad del crecimiento económico en España. 1850-1936. *Revista de Historia Económica* **16**, pp. 619-43.

DEININGER, K., SQUIRE, L. (1996, updated). A New data set measuring income inequality. *World Bank Economic Review* **10**, pp. 565-91.

DEININGER, K., SQUIRE, L. (1998). New ways of looking at old issues: inequality and growth. *Journal of Development Economics* **57**, pp. 257-85.

DOMÍNGUEZ, R. (2002). *La riqueza de las regiones*. Madrid: Alianza.

DUMKE, R. (1988). Income inequality and industrialization in Germany, 1850-1913: images, trends and causes of historical inequality. *Research in Economic History* **11**, pp. 1-47.

DUMKE, R. (1991). Income inequality and industrialization in Germany, 1850-1913: the Kuznets hypothesis re-visited. In Brenner, Y.S., Kaelble, H., and Thomas, M. (eds). *Income Distribution in Historical Perspective*. Cambridge: Cambridge University Press, pp. 117-48.

ESTEBAN, J., RAY, D. (1994). On the measurement of polarization. *Econometrica* **62**, 819-52.

FLORA, P. (1983). *State, Economy and Society in Western Europe, 1815-1975*. Frankfurt: Campus. 2 vols.

FRAILE BALBÍN, P. (1991). *Industrialización y grupos de presión. La economía política de la protección en España 1900-1950*. Madrid: Alianza.

FRANCOIS, J.F., ROJAS-ROMAGOSA, H. (2005). The construction and interpretation of combined cross-section and time-series inequality datasets. World Bank Policy Research Working Paper 3748.

FUENTE, A. de la (2002). On the sources of convergence: A close look at Spanish regions. *European Economic Review* **46**, 569-99.

GIMENO ULLASTRES, J. A. (1999). La incidencia redistributiva de las prestaciones públicas en especie: sanidad y educación. In Maravall Herrero, J.M. (ed). *Dimensiones de la desigualdad*. Madrid: Fundación Argentaria/Visor, pp.15-67.

GOERLICH, F.J., MAS, M. (2001). Inequality in Spain 1973-91: Contribution to a regional database. *Review of Income and Wealth* **47**, 361-78.

GOERLICH, F.J., MAS, M. (2004). Distribución personal de la renta en España. 1973-2001. *Papeles de Economía Española* **100**, 50-58.

GONZÁLEZ-PÁRAMO, J.M. (1992). El papel del sector público español en el proceso de integración económica en Europa. In Viñals, J. (ed). *La economía española ante el Mercado Único europeo. Las claves del proceso de integración*. Madrid: Alianza, pp. 379-427.

GOTTSCHALK, P., SMEEDING, T.M. (2000). Empirical evidence on income inequality in industrialized countries. In Atkinson, A.B. and Bourguignon, F. (eds). *Handbook of Income Distribution*. Amsterdam: Elsevier, I, pp. 261-307.

HOFFMANN, W.G., GRUMBACH, F. HESSE, H.(1965). *Das Wachstum der Deutschen Wirtschaft seit der Mitte des 19. Jahrhunderts*. Berlin: Springer.

- KAELBLE, H., THOMAS, M. (1991). Introduction. In Brenner, Y.S., Kaelble, H., and Thomas, M. (eds.). *Income Distribution in Historical Perspective*. Cambridge: Cambridge University Press, pp. 1-56
- KAKWANI, N., PERNIA, E. (2000). What is pro-poor growth?. *Asian Development Review* **18**, pp. 1–16.
- KATZ, L., AUTOR, D. (1999). Changes in the wage structure and earnings inequality. In Ashenfelter, O.C., Card, D. (eds). *Handbook of Labor Economics*, vol. 3A. Amsterdam: Elsevier, pp. 1463-1555.
- KLASEN, S. (2004). In Search of the Holy Grail: How to Achieve Pro-Poor Growth?. In Tungodden, B., Stern, N., Kolstad, I. (eds). *Toward Pro-Poor Policies. Aid, Institutions, Globalization*, New York: Oxford University Press, pp. 63-93.
- KRAAY, A. (2006). When is growth pro-poor? Evidence from a panel of countries. *Journal of Development Economics* **80**, pp. 198-227.
- KUZNETS, S. (1953). *Shares of Upper Income Groups in Income and Savings*. New York. N.B.E.R.
- KUZNETS, S. (1955). Economic growth and income inequality. *American Economic Review* **45**, 1, pp. 1-28.
- KUZNETS, S. (1966). *Modern Economic Growth: Rate, Structure, and Spread*. New Haven: Yale University Press.
- LINDERT, P.H. (2000). Three centuries of inequality in Britain and America. In Atkinson, A.B. and Bourguignon, F. (eds). *Handbook of Income Distribution*. Amsterdam: Elsevier, I, pp. 167-216.
- LOPEZ, J. H. (2004). Pro-Poor-Pro-Growth: Is there a Trade Off?. World Bank Policy Research Working Paper 3378.
- LÓPEZ, J.H., SERVÉN, L. (2006). A normal relationship? Poverty, growth, and inequality. World Bank Policy Research Working Paper 3814.
- MADDISON, A. (2003). *The World Economy: Historical Statistics*. París: OECD Development Centre.
- MALUQUER DE MOTES BERNET, J. (2005). Trabajo y relaciones laborales. In Carreras, A., Tafunell, X. (eds) *Estadísticas históricas de España.*, Madrid: Fundación BBVA, III, pp. 1155-245.
- MARTIN, B. (1990). *The Agony of Modernization. Labor and Industrialization in Spain*. Ithaca, N.Y.: ILR Press.

- MARTÍN ACEÑA, P. (1994). Spain during the classical Gold Standard years, 1880-1914. In Bordo, M.D., Capie, F. (eds). *Monetary Régimes in Transition*. Cambridge: Cambridge University Press, pp. 135-72.
- MARTÍN ACEÑA, P. (1999). The Spanish monetary experience, 1848-1914. In Martín Aceña, P., Reis, J. (eds). *Monetary Standards in the Periphery. Paper, Silver, and Gold, 1854-1933*. London: Macmillan, pp.112-51.
- MARTÍN ACEÑA, P., PONS, M.A. (2005). Sistema monetario y financiero. In Carreras, A. and Tafunell, X. (eds). *Estadísticas históricas de España*. Madrid: Fundación BBVA, II, pp. 647-706.
- MATTHEWS, R.C.O., FEINSTEIN, C.H., ODLING-SMEE, J.C. (1982). *British Economic Growth 1856-1973*. Oxford: Clarendon Press.
- MILANOVIC, B. (2005). *Worlds Apart. Measuring International and Global Inequality*. Princeton: Princeton University Press.
- MORRISSON, C. (2000). Historical perspectives on income distribution: The case of Europe. In Atkinson, A.B. and Bourguignon, F. (eds). *Handbook of Income Distribution*. Amsterdam: Elsevier, I, pp. 217-60.
- MORRISSON, C., SNYDER, W. (2000). The income inequality of France in historical perspective. *European Review of Economic History* 4, pp. 59-83.
- NADAL, J. (1975). *El fracaso de la Revolución Industrial en España, 1814-1913*. Barcelona: Ariel.
- NÚÑEZ, C.E. (2005). Educación. In Carreras, A. and Tafunell, X. (eds). *Estadísticas históricas de España*. Madrid: Fundación BBVA, I, pp. 155-244.
- O'ROURKE, K., WILLIAMSON, J.G. (1999). *Globalization and History. The Evolution of a Nineteenth Century Atlantic Economy*. Cambridge, MA: M.I.T. Press.
- PALAFIX, J. (1999). Proteccionismo y librecambio. In Anes, G. (ed). *Historia Económica de España. Siglos XIX y XX*. Barcelona: Galaxia Gutemberg, pp. 251-87.
- PARDOS, E. (1998). *La incidencia de la protección arancelaria en los mercados españoles (1870-1913)*. Madrid: Banco de España, Estudios de Historia Económica, nº 37.
- PAYNE, S.G. (1993). *Spain's First Democracy. The Second Republic, 1931-1936*. Madison: University of Wisconsin Press.
- PÉREZ LEDESMA, M., 1990. Estabilidad y conflicto social. España, de los iberos al 14-D. Nerea, Madrid.
- PIGOU, A.C. (1920). *The Economics of Welfare*. London: Macmillan.

- PIKETTY, T. (2003). Income inequality in France, 1901-1998. *Journal of Political Economy* **111**, 5, pp. 1004-42.
- PIKETTY, T., SAEZ, E. (2006). The evolution of top incomes: A historical and international perspective. *American Economic Review. Papers and Proceedings*. **96**, 2, pp.200-5.
- PRADOS DE LA ESCOSURA, L. (1992). Crecimiento, atraso y convergencia en España e Italia: Introducción. In Prados de la Escosura, L., Zamagni, V. (eds). *El desarrollo económico en la Europa del sur: España e Italia en perspectiva histórica*. Madrid: Alianza, pp. 27-55.
- PRADOS DE LA ESCOSURA, L. (2003). *El progreso económico de España, 1850-2000*. Madrid: Fundación BBVA..
- PRADOS DE LA ESCOSURA, L. (2007a). Growth and structural change in Spain, 1850-2000: A European perspective. *Revista de Historia Económica/ Journal of Iberian and Latin American Economic History* **25**, 1: pp. ??.
- PRADOS DE LA ESCOSURA, L. (2007b). Inequality and poverty in Latin America: a long-run exploration. In Hatton, T.J., O'Rourke, K.H., and Taylor, A.M. (eds). *New Comparative Economic History*. Cambridge, M.A.: M.I.T. Press, pp. 291-315.
- PRADOS DE LA ESCOSURA, L. (2007c). La posición internacional de la economía española, 1850-1935: una estimación preliminar de la balanza de pagos. Universidad Carlos III (mimeo).
- PRADOS DE LA ESCOSURA, L., Sanz, J.C. (1996). Growth and macroeconomic performance in Spain (1939-1993). In Crafts, N., Toniolo, G. (eds). *Economic Growth in Europe since 1945*. London: Cambridge: Cambridge University Press/CEPR, pp. 355-87.
- PRADOS DE LA ESCOSURA, L., ROSÉS, J.R. (2003). National income accounts: wages and labor. In Mokyr, J. (ed). *Oxford Encyclopedia of Economic History*. New York: Oxford University Press, pp. 48-52.
- PRADOS DE LA ESCOSURA, L., ROSÉS, J.R. (2007). The sources of long-run growth in Spain, 1850-2000. CEPR Discussion Paper 6189.
- QUIROGA, G., COLL, S. (2000). Income distribution in the mirror of height differences. The case of Spain 1895-1950. *Journal of Income Distribution* **9**, 107-31.
- RAVALLION, M. (1997). Can high inequality development countries escape absolute poverty?. *Economics Letters* **56**, 51-7.
- RAVALLION, M. (2004). Pro-poor growth: A primer. World Bank Policy Research Working Paper no. 3242.

RAVAILLON, M., CHEN, S. (2003). Measuring Pro-Poor Growth. *Economics Letters* **78**, pp. 93-9.

RÍO OTERO, C. del, RUIZ-CASTILLO UCELAY, J. (1999). El enfoque de la dominancia en el análisis de la pobreza. In Maravall Herrero, J.M. (ed). *Dimensiones de la desigualdad*. Madrid: Fundación Argentaria/Visor, pp. 429-60.

RODRIK, D. (1997). Trade, social insurance, and the limits to globalization. NBER Working Paper 5905.

ROSSI, N., TONIOLO, G., VECCHI, G. (2001). Is the Kuznets curve still alive? Evidence from Italian household budgets, 1881-1961. *Journal of Economic History* **61**, 4, pp. 904-25.

ROLDÁN, S., GARCÍA DELGADO, J.L. (1973). *La formación de la sociedad capitalista en España, 1914-1920*. Madrid: Cajas de Ahorro Confederadas.

ROSÉS, J.R., SÁNCHEZ-ALONSO, B. (2004). Regional wage convergence in Spain, 1850-1930. *Explorations in Economic History* **41**, pp. 404-25.

RUIZ-CASTILLO UCELAY, J., SASTRE GARCÍA, M. (1999). Desigualdad y bienestar en España en términos reales: 1973-74, 1980-81 y 1990-91. In Maravall Herrero, J.M. (ed). *Dimensiones de la desigualdad*. Madrid: Fundación Argentaria/Visor, pp. 345-66.

SÁNCHEZ-ALBORNOZ, N. (1968). *España hace un siglo: una economía dual*. Barcelona: Península.

SÁNCHEZ-ALONSO, B. (2000). European emigration in the late nineteenth century: the paradoxical case of Spain. *Economic History Review* **53**, pp. 309-30.

SILVESTRE, J. (2005). Internal migrations in Spain, 1877-1930. *European Review of Economic History* **9**, 233-65.

STOLPER, W., SAMUELSON, P. (1941). Protection and real wages. *Review of Economic Studies* **9**, 58-73.

SZÉKELY, M. (2001). The 1990s in Latin America: Another decade of persistent inequality, but with somewhat lower poverty. Inter-American Development Bank Working Paper Series 454.

TAFUNELL, X. (2005). Construcción y vivienda. In Carreras, A. and Tafunell, X. (eds). *Estadísticas históricas de España*. Madrid: Fundación BBVA, I, pp. 455-99.

TENA JUNGUITO, A. (1999). Un nuevo perfil del proteccionismo español durante la Restauración, 1875-1930. *Revista de Historia Económica* **17**, 579-621.

TORTELLA, G. (1973). An interpretation of economic stagnation in nineteenth century Spain. *Historia Ibérica* **1**, 121-32.

TORTELLA, G. (1994). *El desarrollo de la España contemporánea. Historia económica de los siglos XIX y XX*. Madrid: Alianza.

VELARDE FUERTES, J. (1968). *Política económica de la Dictadura*. Madrid: Guadiana.

WIDER [World Institute for Development Economics Research] (2004). *World Income Database*. Helsinki: UNO/WIDER/UNDP.

WILLIAMSON, J.G. (1982). The structure of pay in Britain, 1710-1911. *Research in Economic History* 7, pp. 1-54.

WILLIAMSON, J.G. (1985). *Did British Capitalism Breed Inequality?*. London: Allen and Unwin.

WILLIAMSON, J.G. (1997). Globalization and Inequality, Past and Present. *World Bank Research Observer* 12, 2, pp. 117-35.

WILLIAMSON, J.G. (2002). Land, labor, and globalization in the Third World, 1870-1940. *Journal of Economic History* 62, pp. 55-85.

WILLIAMSON, J.G., LINDERT, P.H. (1980). *American Inequality. A Macroeconomic History*. New York: Academic Press.

Table 1**Per Capita GDP Growth and its Components 1850-2000**

	Per Capita GDP	GDP per hour worked	Hours worked per occupied	Occupied per EAP	EAP per Pop 15-64	Pop 15-64 /Population
1850-2000	1.9	2.1	-0.3	-0.1	0.1	0.1
1850-1950	0.8	0.9	-0.1	0.0	0.0	0.1
1951-1974	5.5	5.5	-0.4	0.3	0.4	-0.3
1975-2000	2.6	3.4	-0.8	-0.6	0.2	0.4
1850-1883	1.4	1.2	-0.1	0.1	0.1	0.0
1884-1920	0.7	1.0	-0.2	-0.1	0.0	0.0
1921-1929	2.8	2.0	-0.3	1.0	0.0	0.1
1930-1952	0.0	0.0	-0.1	-0.1	-0.1	0.3
1953-1958	3.9	4.3	-0.6	-0.4	0.8	-0.3
1959-1974	5.8	6.3	-0.5	0.0	0.2	-0.2
1975-1986	1.8	6.1	-1.5	-2.4	-0.8	0.4
1987-2000	3.3	1.1	-0.1	1.0	1.0	0.3

Note: EAP, Economically Active Population; Pop, population.

Sources: Prados de la Escosura and Rosés (2007).

Table 2

Absolute Poverty: Actual and Counterfactual Rates of Decline (%)

	(I) Actual	(II) Counterfactual*
1850-1880	2.4	1.2
1880-1920	-0.5	0.8
1920-1935	5.9	1.7
1950-1960	18.2	5.2
1960-1975	32.8	14.4
1850-1920	0.7	1.0
1950-1975	27.0	10.7
1850-1975	5.8	2.7

* Assuming a fixed 1950 Gini

Sources: See the text.

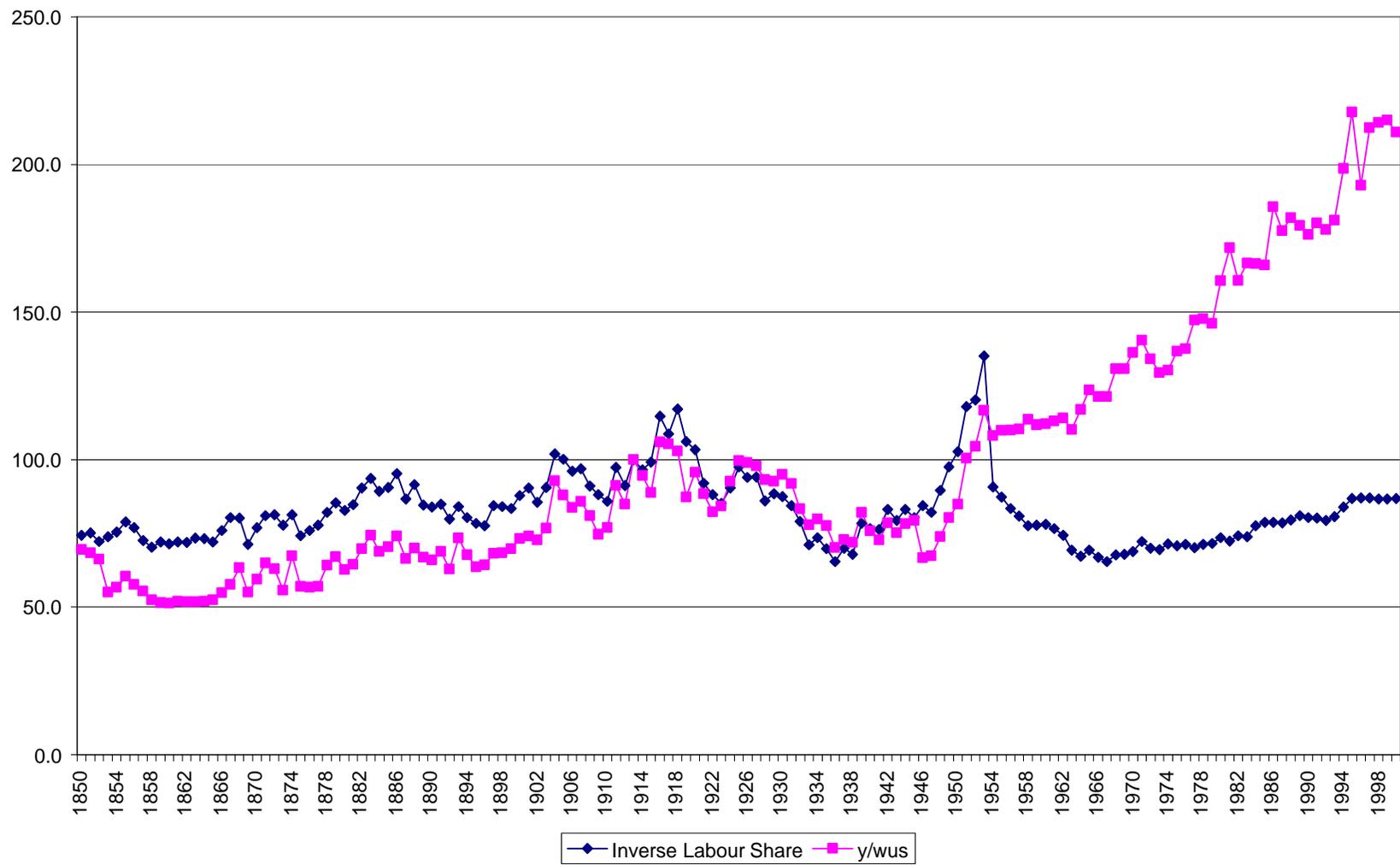


Figure 1: Alternative Inequality Indices: the Inverse Labour Share and the Williamson Index

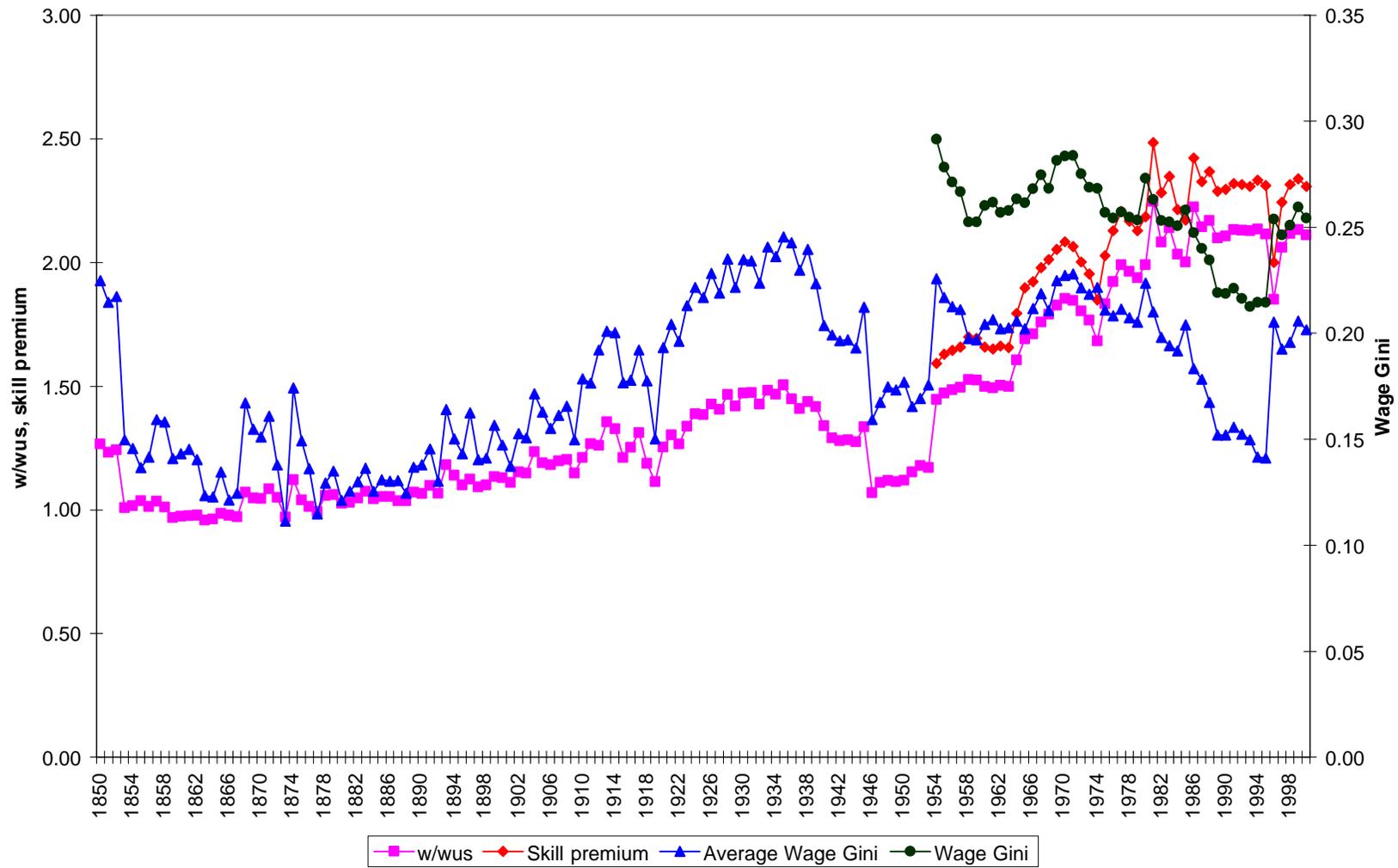


Figure 2: Skill Premium and Wage Gini

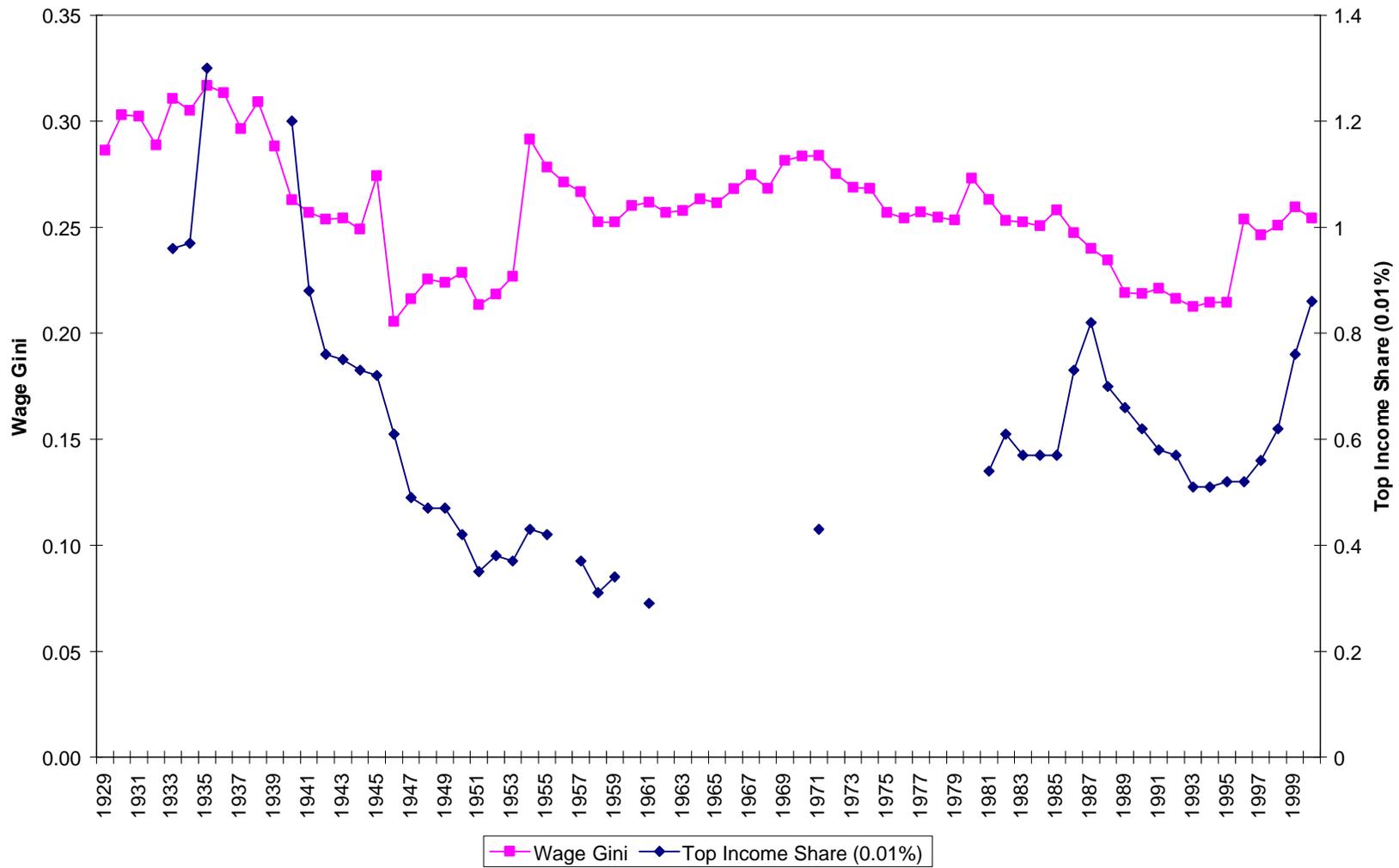


Figure 3: Wage Gini and Alvaredo and Saez's (2006) Top Income Share (0.01%)

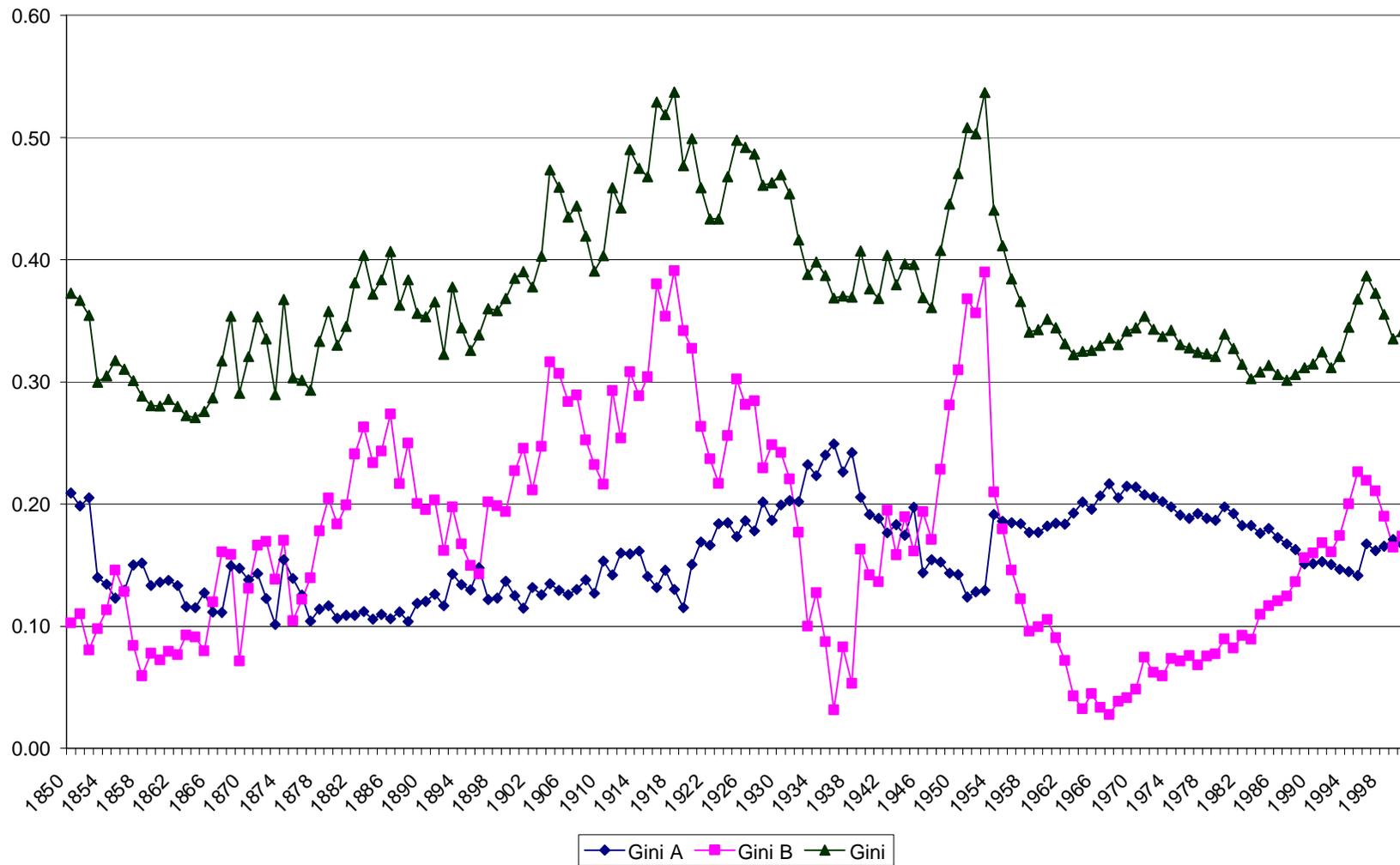


Figure 4: Gini and its Components, 1850-2000

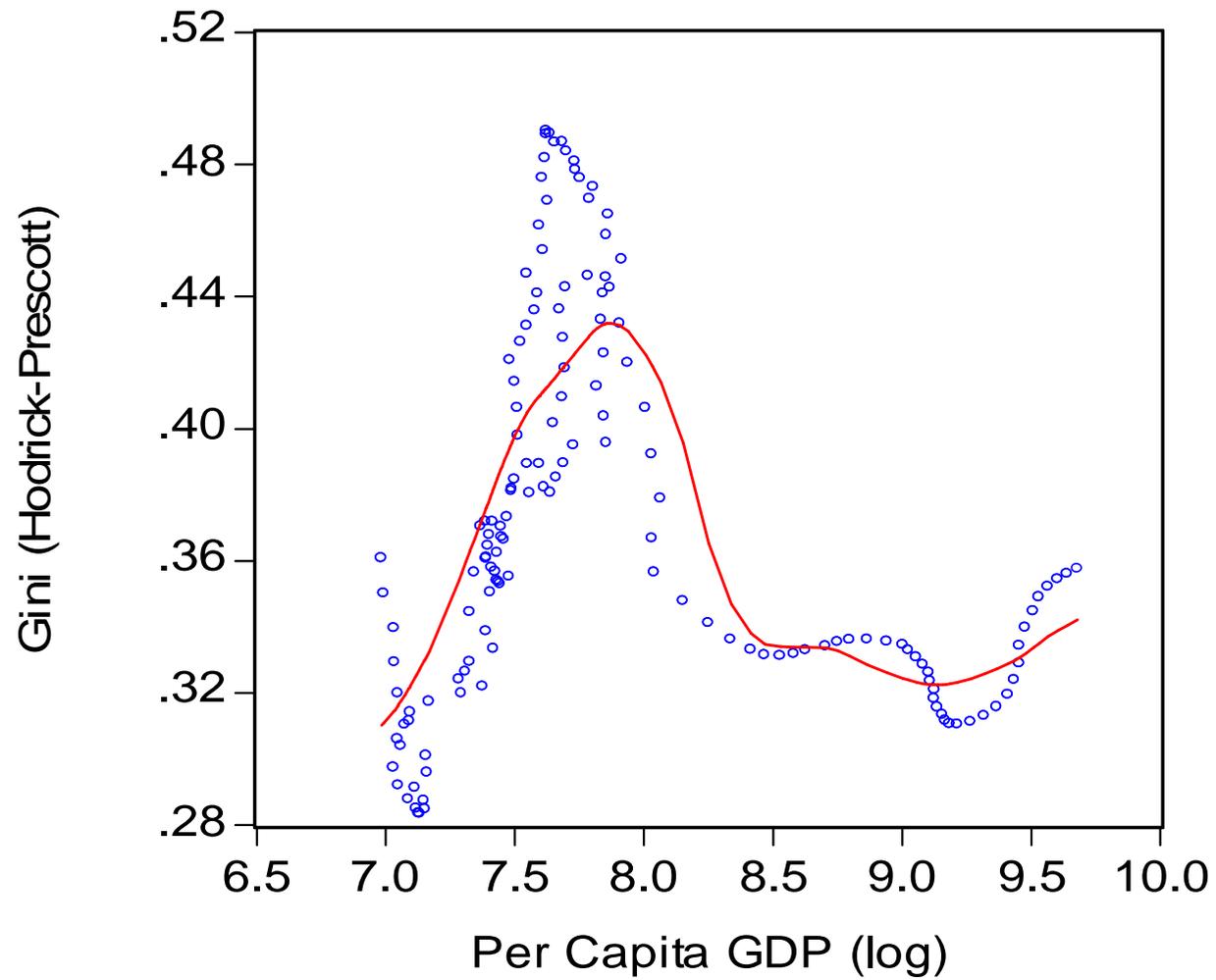


Figure 5: The Kuznets Curve in Spain (Kernel Fit Epanechnikov, $h=0.4042$)

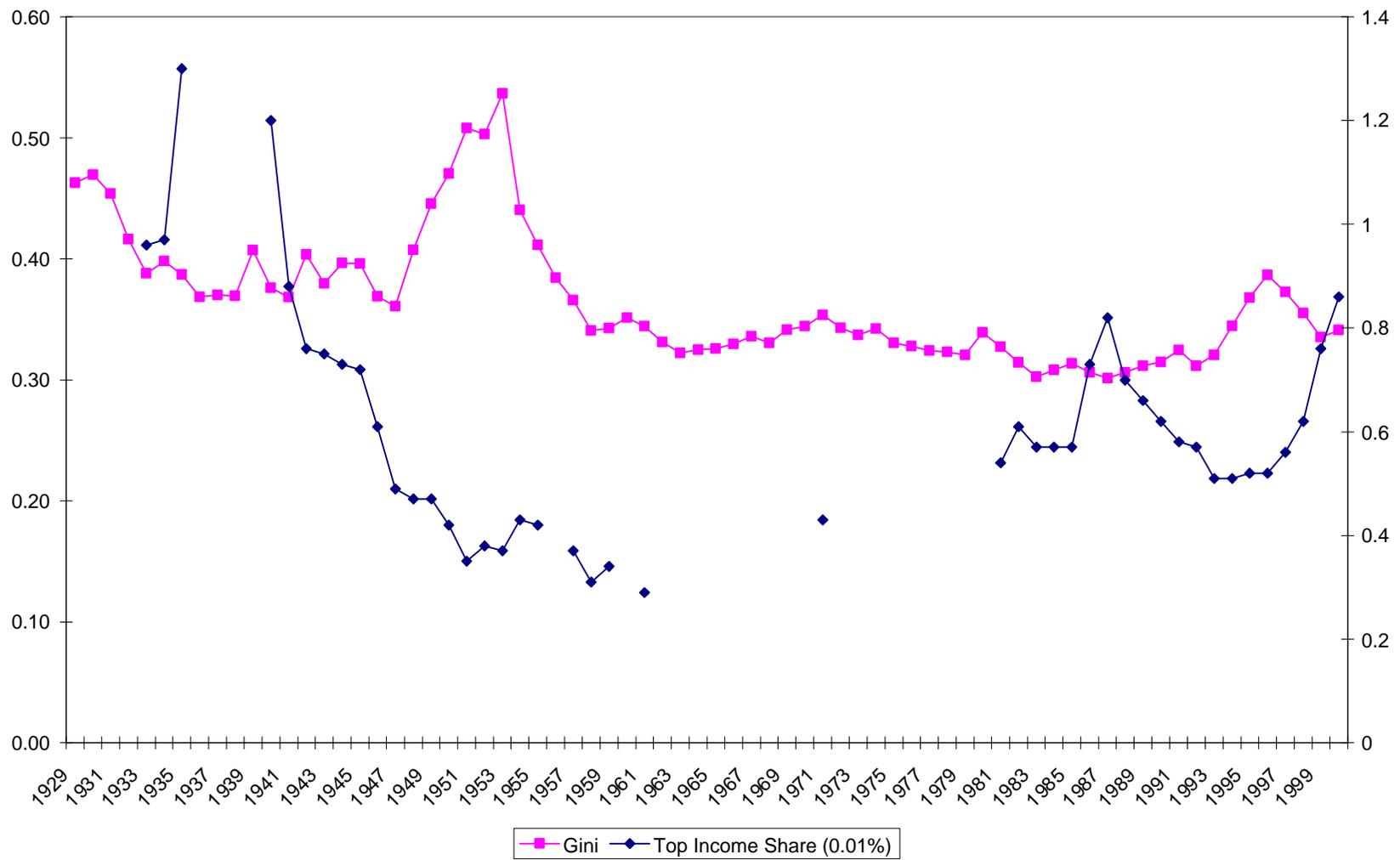


Figure 6: Gini and Alvaredo and Saez's (2006) Top Income Share (0.01%)

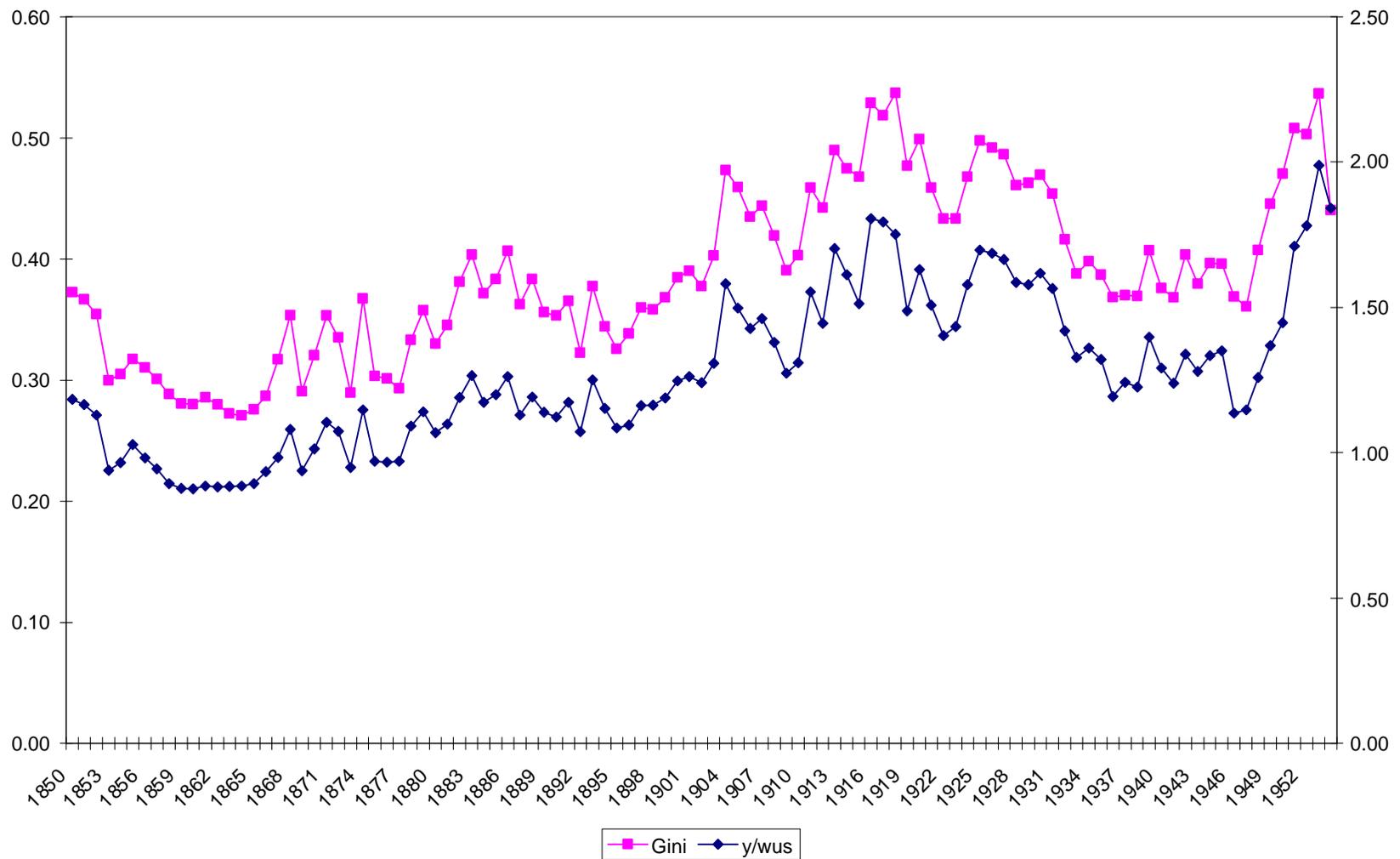


Figure 7: Gini and the Williamson Index, 1850-1954

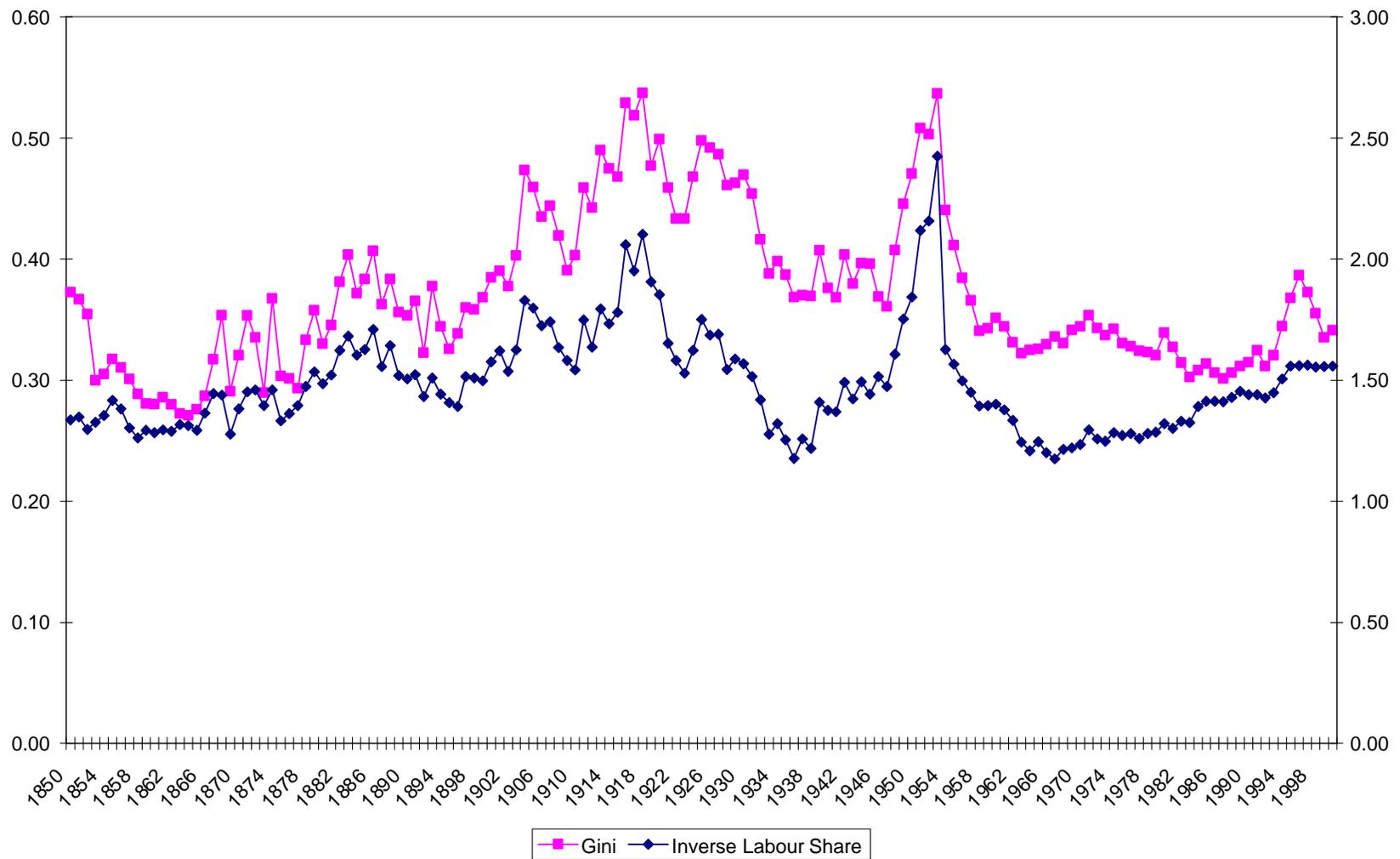


Figure 8: Gini and the Inverse Labour Share, 1850-2000

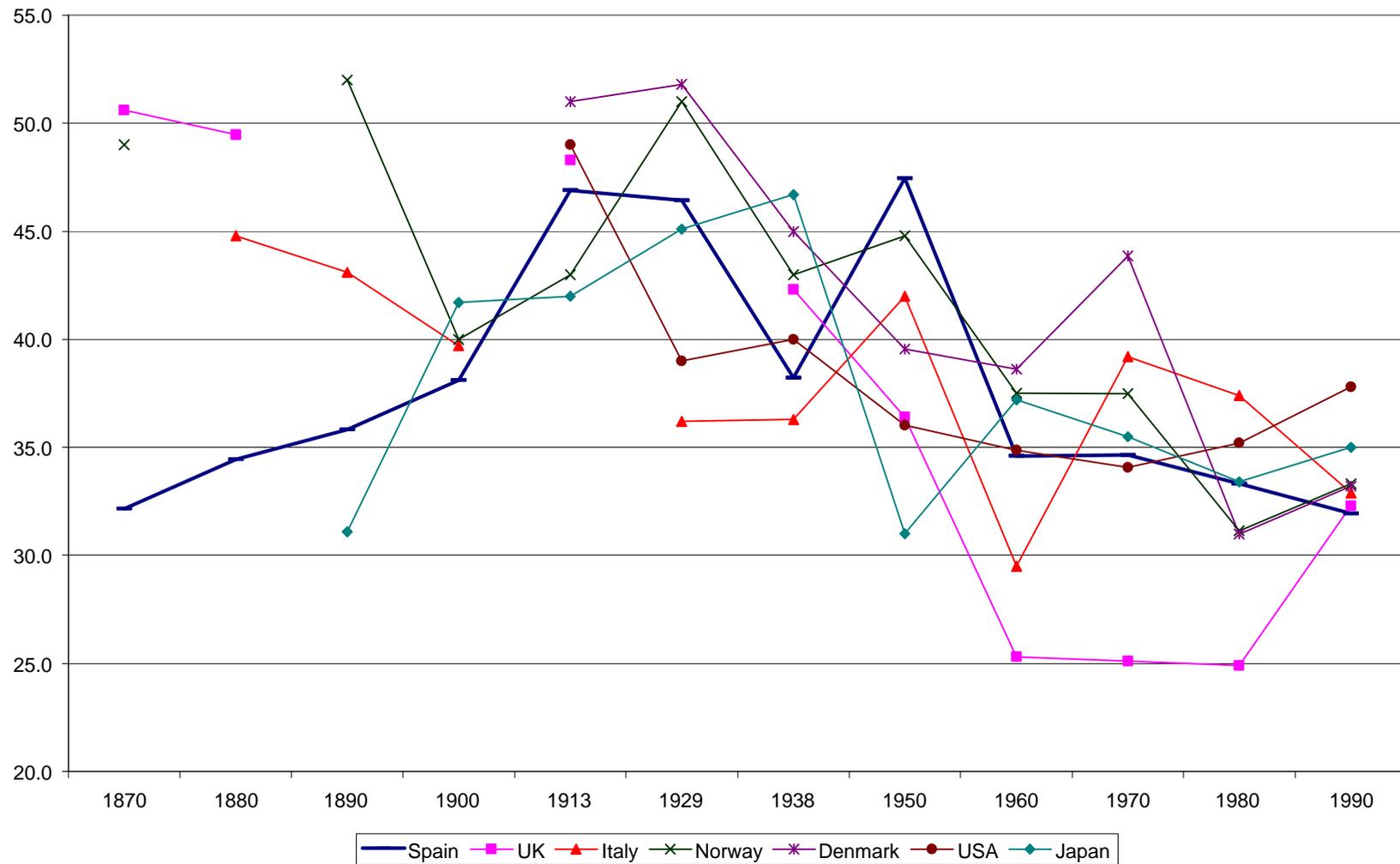


Figure 9: Gini in Spain and OECD Countries, 1870-2000

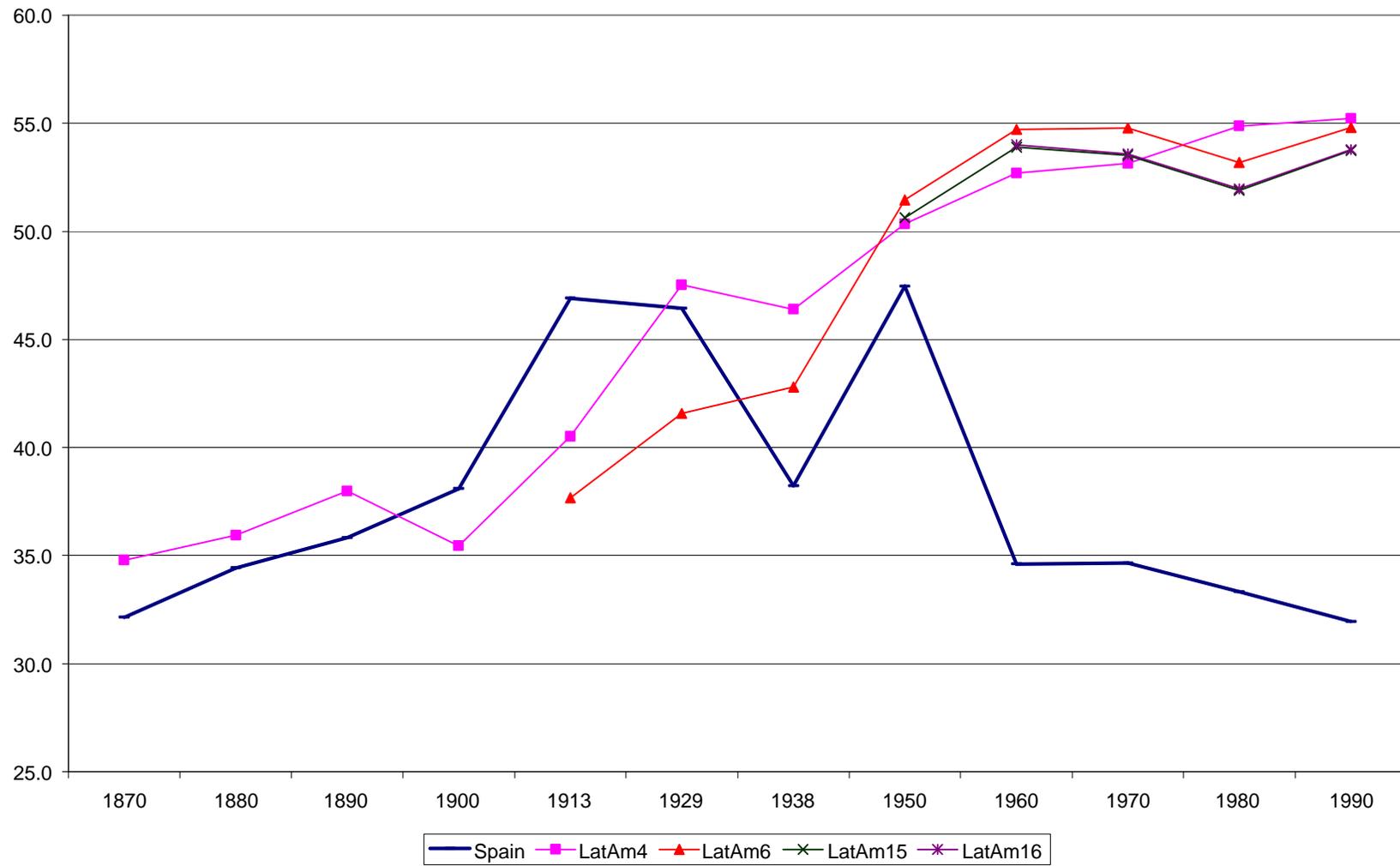


Figure 10: Gini in Spain and Latin America, 1870-2000

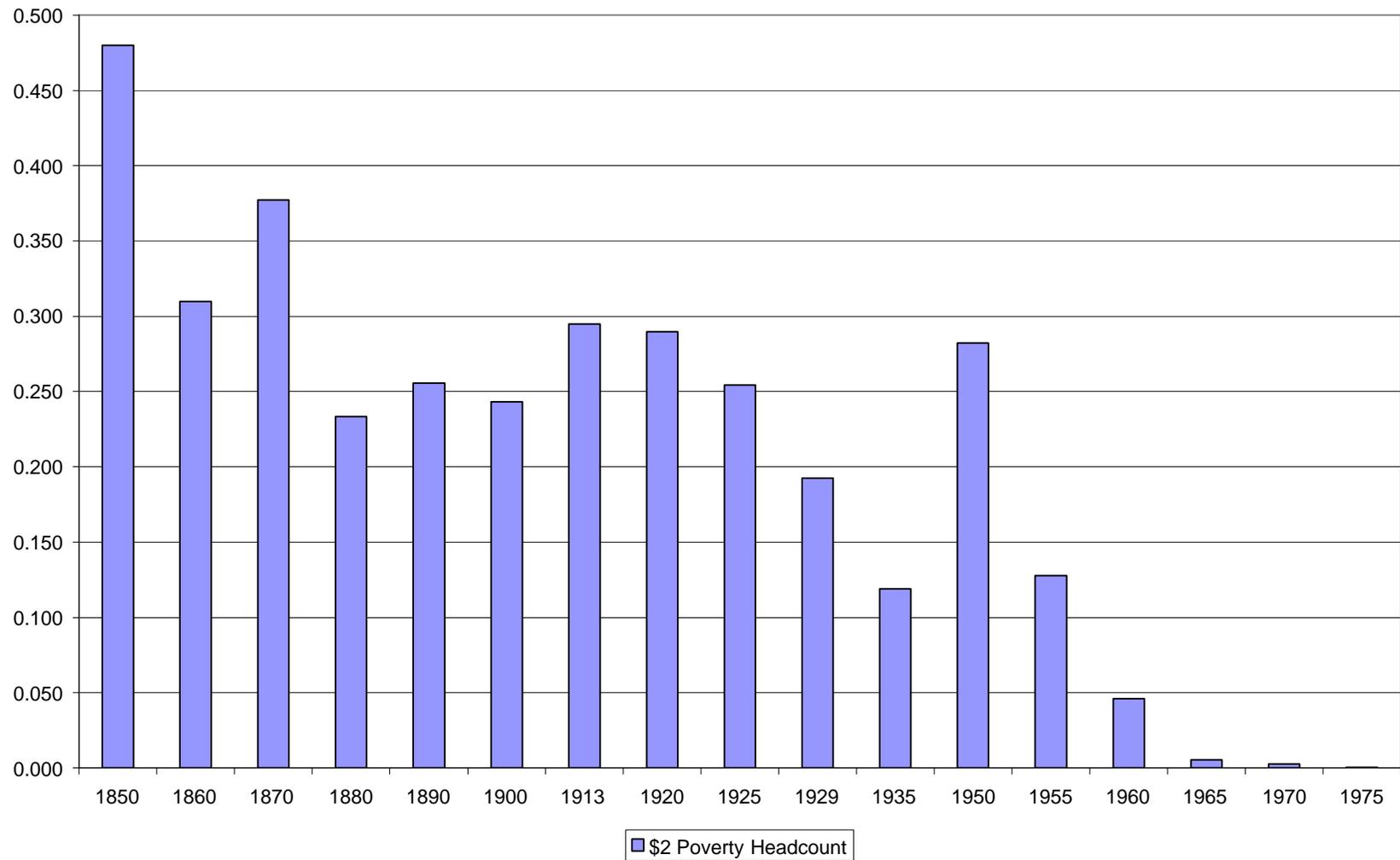


Figure 11: Poverty Headcount (%) [Poverty Line: 1985 Geary-Khamis \$ 2 a day per person]

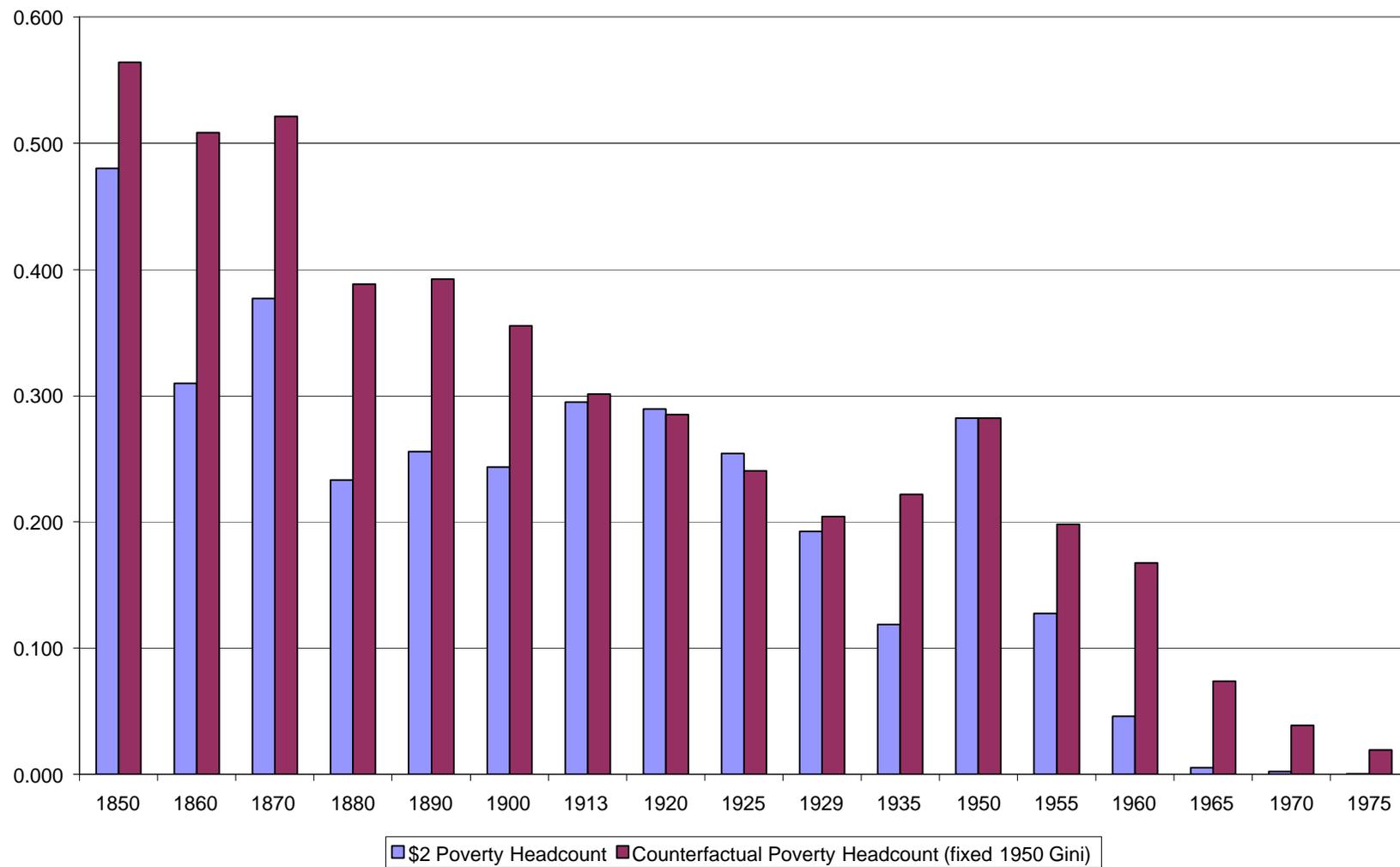


Figure 12: Actual and Counterfactual Poverty Headcount (%) [Poverty Line 1985 Geary-Khamis \$ 2 a day per person]

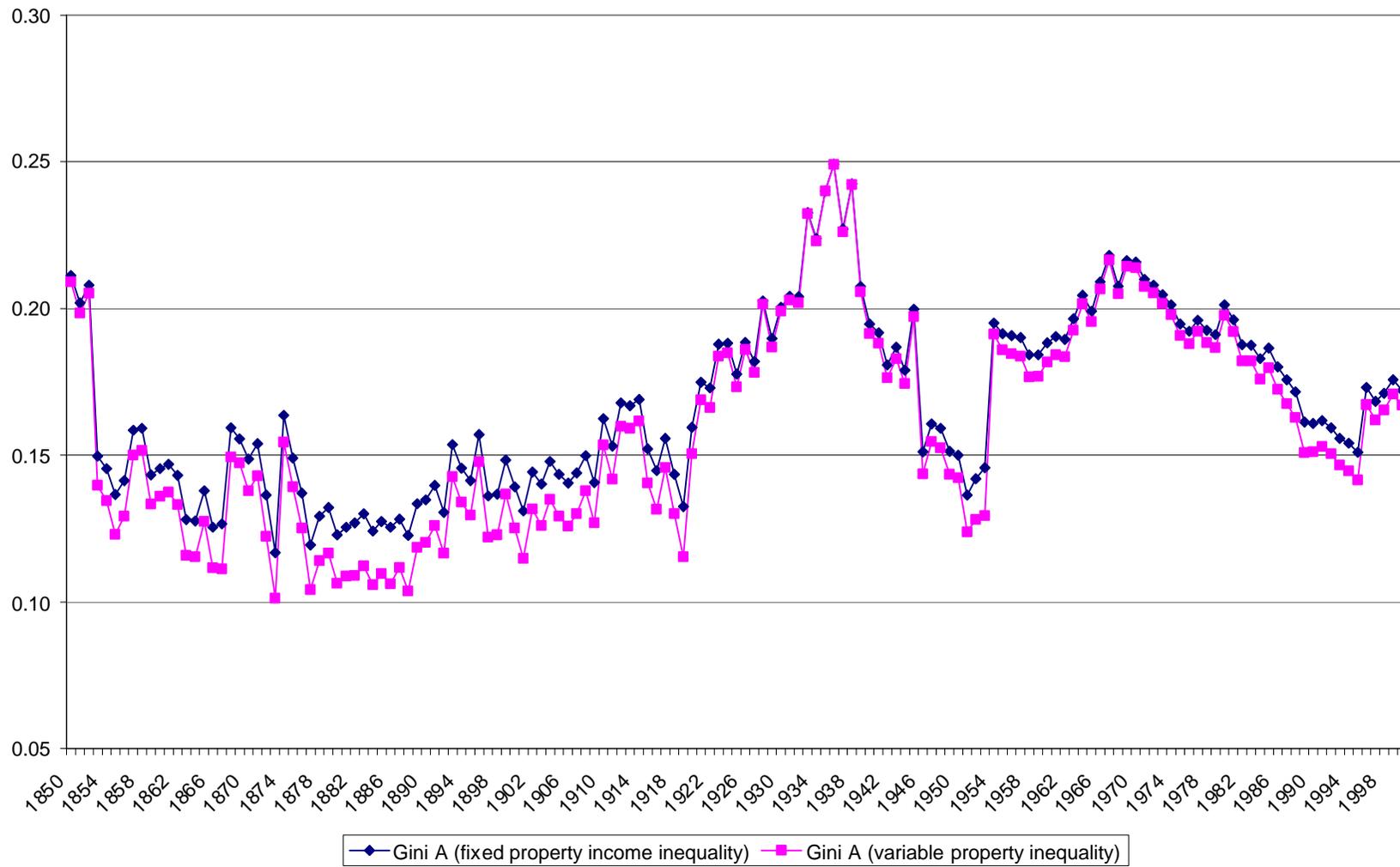


Figure A-1. Gini A: Alternative Estimates with Fixed and Variable Property Inequality

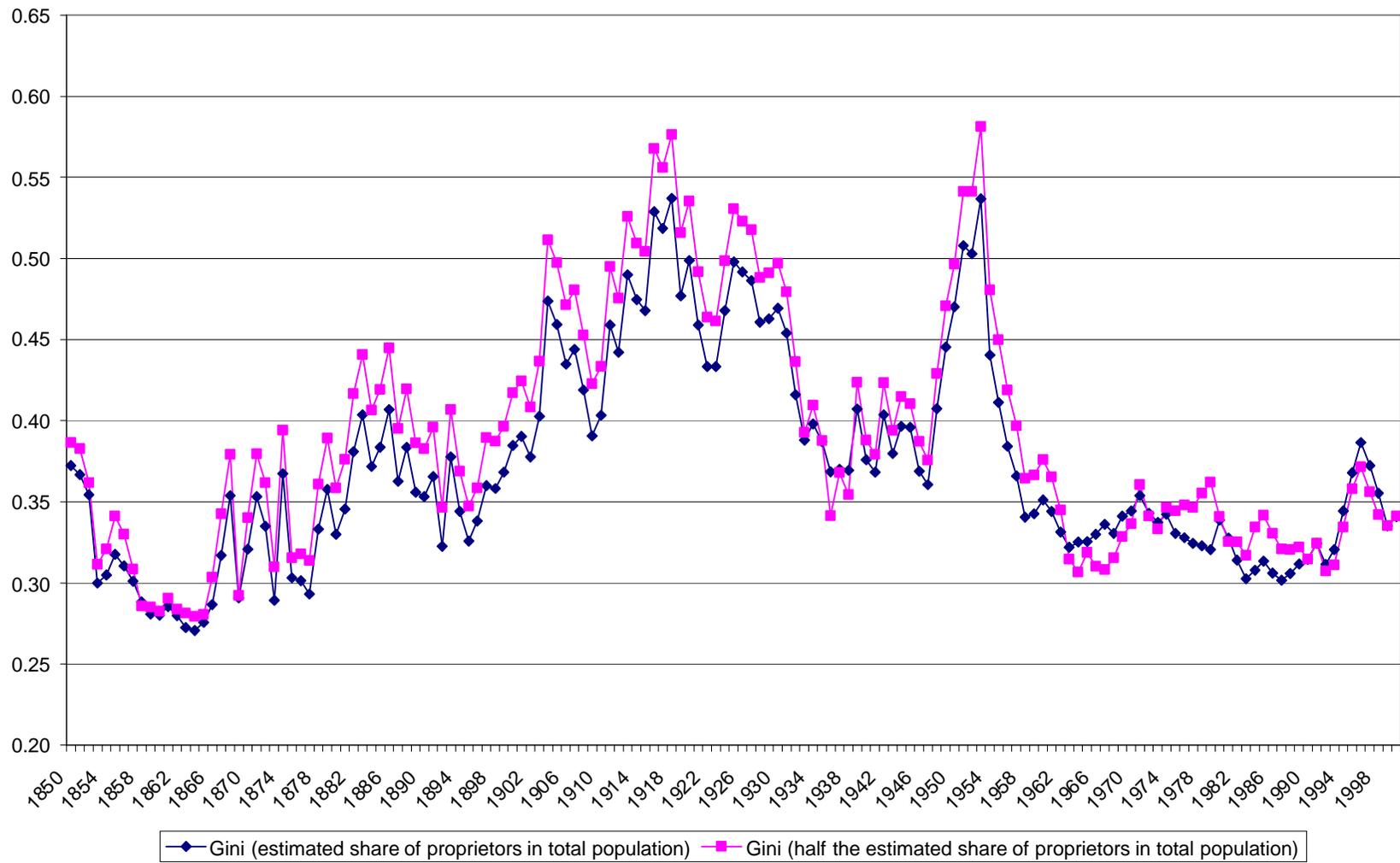


Figure A-2. Alternative Gini Computed with the Estimated Share of Proprietors in Population and with a Half of it

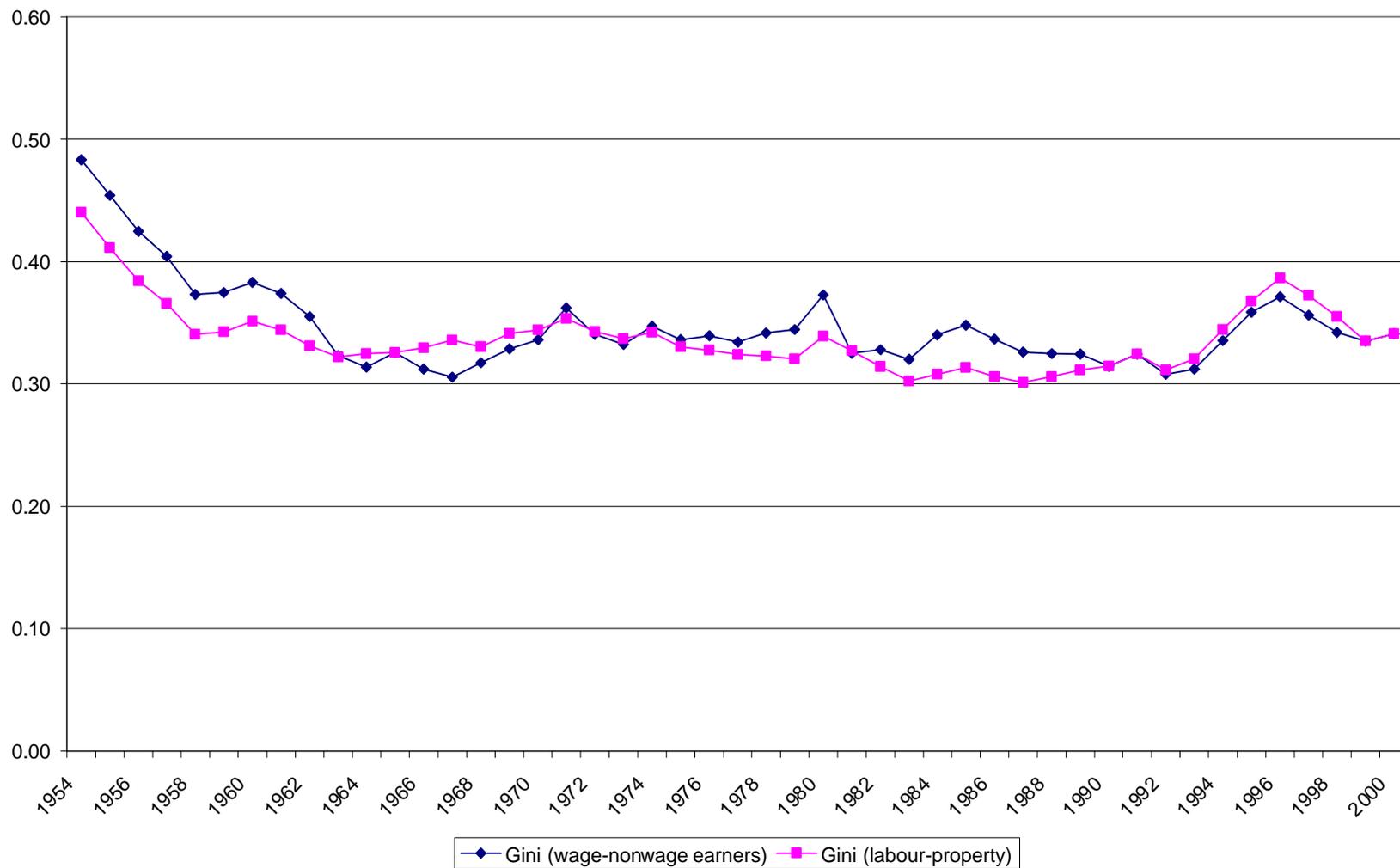


Figure A-3. Alternative Gini Distinguishing between Wage-Non Wage Earners and between Labour and Property