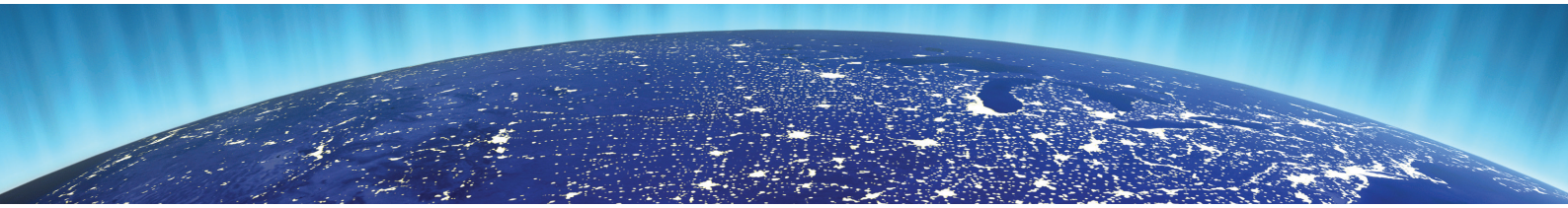
CAGE
Competitive Advantage in the Global Economy

CHATHAM HOUSE



The CAGE-Chatham House Series, No. 12, February 2014

Human Development as Positive Freedom: A World View Since 1870

Leandro Prados de la Escosura

Summary points

- Substantial gains in world human development have been achieved since 1870, but research shows that the main improvement actually occurred between the First World War and 1970.
- Across-the-board advances took place in life expectancy and education between 1920 and 1950, a phase during which there was a major backlash against economic globalization. This is evidence of a development puzzle: economic growth and human development do not always go hand in hand.
- Between 1913 and 1970 the absolute gap between most countries in the OECD and the rest of the world widened, with different regions experiencing mixed success in catching up. Since the 1970s the performance of developing regions has varied greatly.
- Despite initial successes in lifting human development, the socialist experiments of the 20th century failed to sustain momentum and then (with the exception of Cuba) stagnated and fell behind prior to the socialist model's ultimate demise.
- Education has been the driving force behind the limited catching-up of developing regions in terms of long-term human development. In terms of life expectancy, these regions achieved significant gains only during the first (early-life) health transition. Since 1970, while most OECD countries have experienced a second (later-life) health transition, all developing regions have fallen behind.

Introduction

How has well-being evolved during the last one-and-a-half centuries? How do the advanced nations of 'The West' (Western Europe and its European Offshoots plus Japan) compare with 'The Rest of the World' in terms of well-being?[1] In this regard, how do capitalist and socialist societies compare at early stages of economic development? There are no easy answers to these questions, but the policy implications are far-reaching.

Economists usually address well-being in terms of GDP per head (Oulton, 2012). However, well-being can equally be viewed as a multi-dimensional phenomenon that is affected not just by material goods, but also by many other elements, including health, education, political voice, environment and personal insecurity (Fleurbaey, 2009; Stiglitz et al., 2009).

There are three different approaches to well-being: *welfare economics* weights the various non-monetary dimensions of quality of life; *subjective well-being* places life satisfaction at its centre; and the *capabilities* approach makes well-being dependent on a combination of 'functionings' ('doings and beings') and 'capabilities' (the freedom to choose among alternative bundles of functionings).

Recent research shows a strong global relationship between life satisfaction and per capita GDP. However, because the standard of happiness has shifted upwards over time with the level of income, average national life satisfaction provides a useful measure only in cross-section, not over time. Furthermore, neither life satisfaction nor health satisfaction is strongly correlated with objective measures of health, such as life expectancy (Deaton, 2008).

This briefing paper[2] favours the capabilities approach to well-being in the long run, in which development is seen as a process of expanding freedom and in which objective measures are used. Human development, a concept deep-rooted in the capabilities approach, was originally defined as 'a process of enlarging people's choices' (UNDP, 1990): enjoying a healthy life, acquiring knowledge and achieving a decent standard of living. These achievements provide individuals with freedom to choose and the opportunity 'to lead lives they have reasons to value' (Sen, 1997). Human development can thus be depicted as positive freedom (Desai, 1991).

Answers to the questions raised here are based on a new historical index of human development (HIHD) (Prados de la Escosura, 2014a). The time span covered runs from 1870 to 2007. In 1870 Western Europe and the European Offshoots were beginning to experience large-scale improvements in health, helped by the diffusion of the germ theory of disease (Preston, 1975; Riley 2001) and in mass education (Benavot and Riddle, 1988; Lindert, 2004), while 2007 marks the eve of the great recession.

How is human development measured?

The Human Development Index (HDI), which is published by the United Nations Development Programme (UNDP), has three dimensions: a healthy life, access to knowledge and other aspects of well-being. It uses reduced forms of these dimensions, namely life expectancy at birth as a proxy for a healthy life, education measures (literacy, schooling) as a short-cut for access to knowledge, and discounted per capita income (its log) as a surrogate for other aspects of well-being (Anand and Sen, 2000; UNDP, 2001). These are combined into a synthetic measure using a geometric average (UNDP, 2010). Since all dimensions are considered indispensable they are assigned equal weights.

It matters how progress in the dimensions of human development is measured. Often social variables (life expectancy, height or literacy) are used, either raw (Acemoglu and Johnson, 2007; Hatton and Bray, 2010;

1 In this paper, 'The West' coincides largely – but not completely – with the membership of the Organisation for Economic Co-operation and Development (OECD) up to 1994: Western Europe, its 'Western Offshoots', and Japan. Western Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. Three OECD members are excluded: Iceland and Luxemburg are left out for lack of human development estimates; Turkey is counted with Asia so as to reduce group heterogeneity in terms of development. 'Western Offshoots' consists of Australia, Canada, New Zealand and the United States.

2 This paper draws on a recent article in the *Review of Income and Wealth* (Prados de la Escosura, 2014a) and on a working paper (Prados de la Escosura (2013a).

Lindert, 2004) or linearly transformed (UNDP, 2010). This causes measurement problems when a social variable has asymptotic limits. An example would be life expectancy. Consider two improvements, one from 30 to 40 years and another from 70 to 80 years. These increases are identical in absolute terms, but the second is smaller in proportion to the initial starting level. When original (or linearly transformed, as happens in the case of the UNDP's HDI) values are employed, identical changes in absolute terms result in a smaller measured improvement for the country with the higher starting point, favouring the country with the lower initial level (Sen, 1981; Kakwani, 1993).

> 'Research over the last two decades concludes that healthy life expectancy increases in line with total life expectancy, and as life expectancy rises, disability for the same age-cohort falls'

The limitations of linear measures become more evident when quality is taken into account. Life expectancy at birth, and literacy and schooling rates, or years of schooling, are just crude proxies for the actual goals of human development: a long and healthy life and access to knowledge. Research over the last two decades concludes that healthy life expectancy increases in line with total life expectancy, and as life expectancy rises, disability for the same age-cohort falls (Salomon et al., 2012). Similarly, the quality of education, measured in terms of cognitive skills, grows as the quantity of education increases (Hanushek and Kimko, 2000; Altinok et al., 2013). The bottom line is that more years of life and education imply higher quality of health and education during childhood and adolescence in both the time series and the cross-section.

In this paper, as an alternative to the UNDP's conventional HDI, a historical index of human development is used in which non-income variables are transformed non-linearly, rather than linearly as in the HDI, in order to allow for two main facts: increases of the same absolute size represent greater achievements the higher the level at which they take place; and quality improvements are associated with increases in quantity (see Prados de la Escosura, 2013a and 2014a, for further details).

An important objection to any index of human development derives from the fact that, in the capabilities approach, functionings are directly related to whatever life people actually lead (that is, achievements), while capabilities (or ability to achieve) are connected with the freedom people have in the choice of life or functionings (Sen, 1985 and 1987). This means that while the HDI includes achievements (in health, access to knowledge, etc.), it does not comprise the freedom to choose functionings. However, without agency – that is, the ability to pursue and realize goals a person has reasons to value – and freedom, any index captures only 'basic needs' and falls short of even a reduced form of the concept of human development (Ivanov and Peleah, 2010).

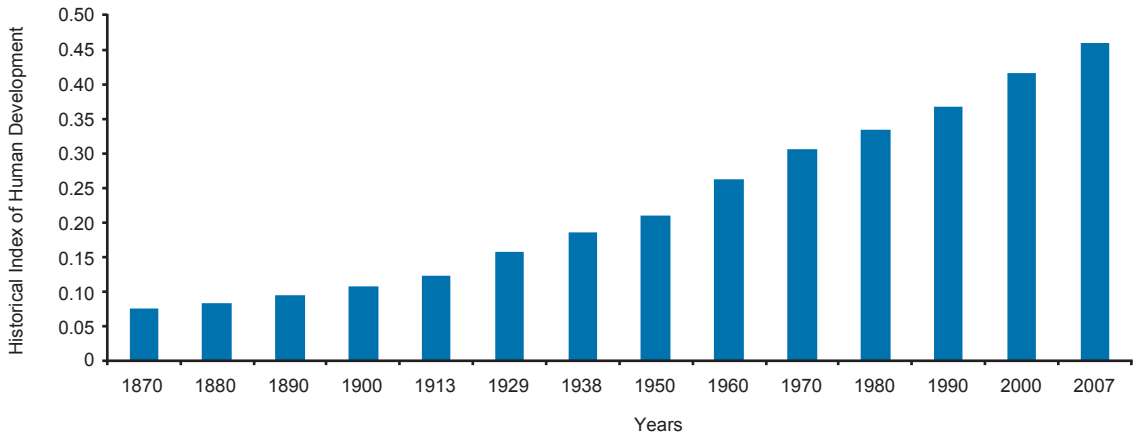
How has world human development evolved over the long run?

World human development shows a long-run upward trend, increasing sixfold between 1870 and 2007, at a pace of 1.3% per year, as Figure 1 demonstrates. There remains, nonetheless, significant room for improvement. Using the UNDP's *Human Development Reports*' conventional distinction between 'low' (< 0.5), 'medium' (0.5–0.8), and 'high' (> 0.8) levels, human development in the world was still below the 'medium' level by 2007.

Three main phases can be distinguished: first, steady and moderate progress up to 1913; second, acceleration during the period 1913–70 (except for the Second World War); and third, deceleration from 1970, but giving way to expansion from 1990 to 2007.

The improvement in aggregate human development was accompanied by a more even distribution across countries,

Figure 1: World human development, 1870–2007



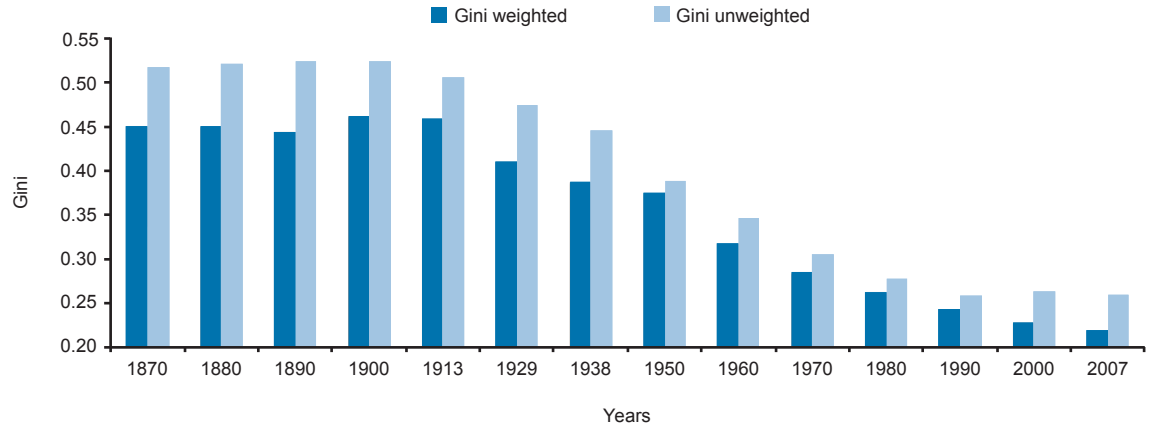
Source: Prados de la Escosura (2013a).

as Figure 2 highlights. International inequality of human development fell between 1913 and 1990 if all countries are given the same weight (the Gini coefficient fell from 0.52 to 0.26); the process of equalization continued until 2007 if countries are weighted by their population (the Gini declined from 0.46 to 0.22).

Figure 3 shows that trends in human development do not match those in real GDP per capita (Maddison, 2010). Phases of economic globalization have a dramatic impact on per capita income growth (Lindert and Williamson, 2003), but not on the progress of human development.

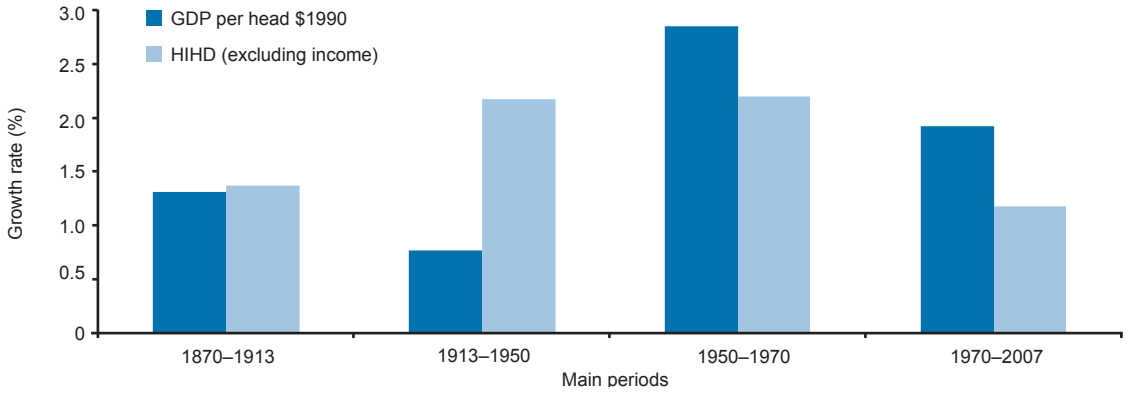
A lack of association is observed between human development and per capita income prior to the First World War. Although the initial large-scale progress in health can be traced back to the late 19th century, with the diffusion of the germ theory of disease (Riley, 2001), and the significant advance of primary education (Benavot and Riddle, 1988), the improvement in human development dimensions fell short of the economic advancement resulting from globalization and industrialization. In the late 19th century human development was held back by the negative impact of urbanization on life expectancy and the lack of public policies on education and health (Easterlin, 1999; Lindert, 2004).

Figure 2: International inequality in world human development, 1870–2007 (unweighted and population-weighted Gini)



Source: Prados de la Escosura (2014a).

Figure 3: World human development (excluding income) and GDP per head growth rates, 1870–2007 – main periods (%)



Source: Prados de la Escosura (2013a).

> ‘Only since 1950 has human development advanced hand in hand with economic growth, albeit at a slower pace in the Golden Age (1950–73) and again since 2000’

However, it was during the globalization backlash, spanning the period 1914–50, that clear discrepancies emerged. Although real GDP per capita stagnated or declined as world commodity and factor markets disintegrated, health and education practices increasingly spread across the world and human development progressed steadily. In the case of Britain, some have argued that increases in social sharing and public support for social services explain the paradox (Sen, 1999). However, a global explanation is required as this phenomenon took place across the board, and included countries where public social protection did not expand.

The finding that economic growth and human development were uncorrelated for quite lengthy periods may inform current controversies. Amartya Sen and Jagdish Baghwati have debated whether economic policy in India should have multiple objectives, or should give exclusive priority to economic growth on the grounds that the latter will automatically promote access to better health, longer life, improved skills and deeper knowledge.[3] It is possible that economic policy interventions in favour of health and education are required under some conditions to realize the full potential of economic growth for human development.

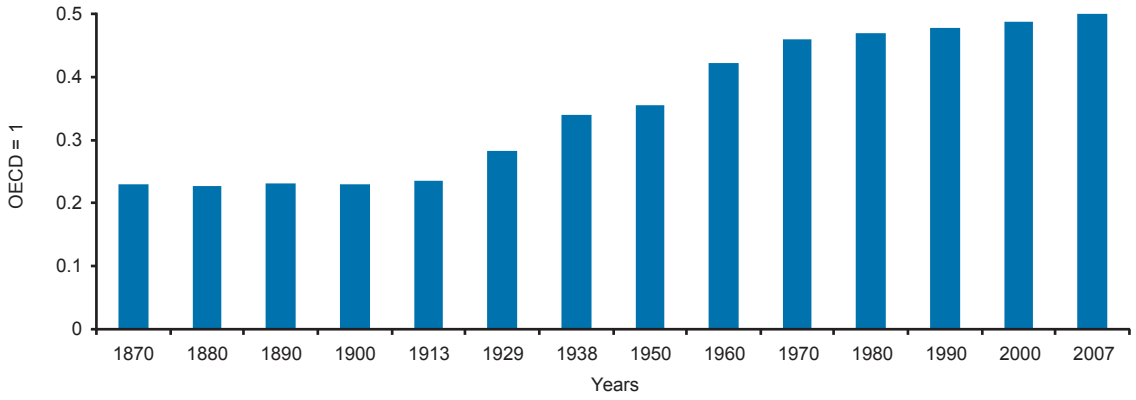
Only since 1950 has human development advanced hand in hand with economic growth, albeit at a slower pace in the Golden Age (1950–73) and again since 2000.

How does The West compare with The Rest of the World? Have their differences widened?

How has the gap between The West and The Rest of the World (The Rest, hereafter) evolved over time, and to what extent have different regions in The Rest caught up (measured as the difference in the human development growth rate) with The West? Relative to The West,

3 ‘Rival economists in public battle over cure for India’s poverty’, *The New York Times*, 21 August 2013.

Figure 4: Relative human development in The Rest of the World, 1870–2007 (OECD=1)



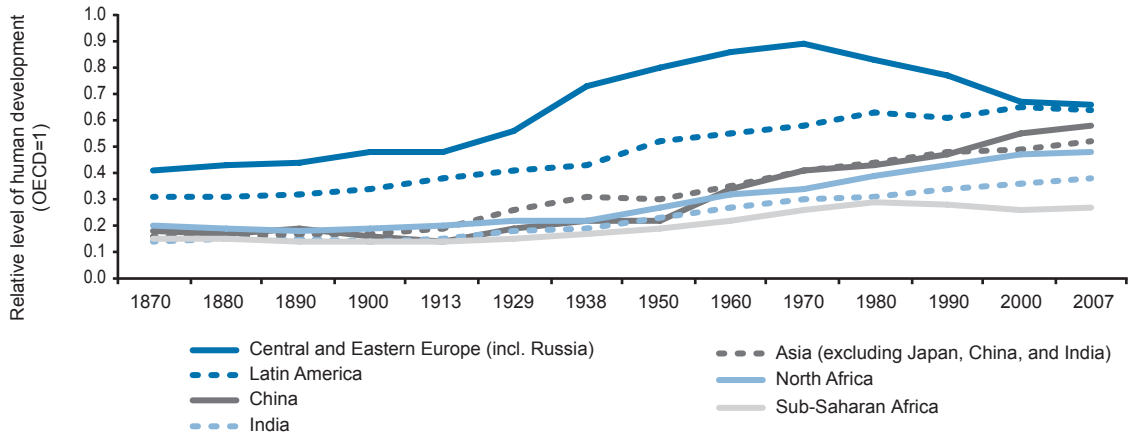
Source: Prados de la Escosura (2013a).

The Rest demonstrated stability up to 1913, a stronger performance thereafter with clear signs of catching up to 1970 – apart from during the Second World War – and a weaker showing afterwards. Indeed, as Figure 4 reveals, its catching up with The West slowed down dramatically after 1970, and by 2007 it still represented only 50% of The West's level of human development.

A deeper perception of world human development derives from comparing regional performance, which shows a wide variance across regions, as Figure 5 confirms. Latin America was catching up with the OECD until 1980, although more intensively during the first half of the 20th century. In Africa, a sustained improvement and catching-up took place between the 1920s and the 1970s, but, since 1980, this has slowed down in North Africa and ceased altogether in sub-Saharan Africa. In Asia, starting from low levels, human development improved significantly until 1970 and again at the turn of the century, driven by China's and India's progress. Since the 1970s, Central and Eastern Europe and North Africa have converged with Latin America, while Asia and North Africa have narrowed the gap and sub-Saharan Africa has fallen behind.

Therefore, by 2007, levels of human development in Central and Eastern Europe (including Russia) and Latin

Figure 5: Relative human development across world regions, 1870–2007 (OECD =1)



Source: Prados de la Escosura (2013a).

America matched those of the OECD in the late 1960s. China and India, meanwhile, achieved the OECD level of 1960 and 1929 respectively, and in the rest of Asia (excluding Japan) that of 1950. The Arab north of Africa reached The West's level of 1938, but sub-Saharan Africa only attained the level of 1890. On average, by 2007 human development in The Rest reached the level of The West in 1950, but in terms of income per capita it was only equivalent to that of 1938.

Do social systems matter for human development?

It has been suggested that socialist societies have an advantage over capitalist ones in lifting human well-being at low levels of per capita income, but does the evidence on human development support this view?

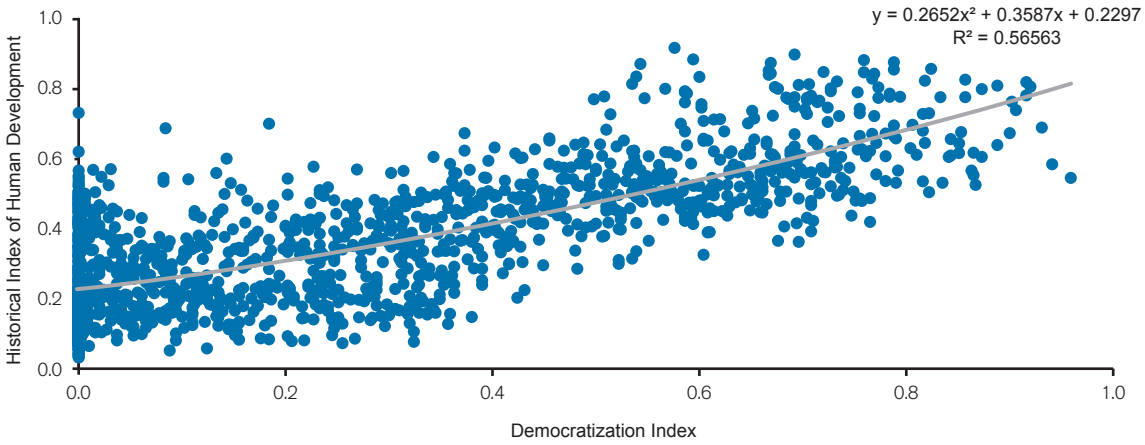
The case of the Soviet Union is instructive. Substantial gains in human development were achieved between the 1920s and the 1960s, resulting in an impressive catching-up period with respect to the OECD. However, from the late 1960s onwards, human development progress gave way to stagnation and subsequently to a reversal through to 2000. In the transitional economies of Central and Eastern Europe, significant achievements in health and education could also be observed in the 1950s, decelerating in the 1960s and 1970s and then slowing down sharply through to the turn of the century.

The success of the Soviet Union in raising life expectancy and extending education to its people during the central decades of the 20th century provided an appealing model for newly independent nations in Asia and Africa after the Second World War as they faced the challenge of meeting basic needs (Collier and O'Connell, 2008; Ivanov and Peleah, 2010).

In China, human development improved significantly during the first half of the 20th century and accelerated after the revolution up to the 1960s. The country then made significant advances again after 1990 once pro-market economic reforms were introduced. Nonetheless, China's experiences of social engineering during the Cultural Revolution and Cambodia's period under the Khmer Rouge proved disastrous for human development. In Indochina, human development improvements had to wait until the late 20th century once economic liberalization was introduced. Indeed, Vietnam, Laos, and Cambodia caught up with the East Asian average only after 1990.

Benin, Ethiopia, the Republic of Congo, Angola and Mozambique provide evidence of socialist experiments in sub-Saharan Africa, and they all failed in terms of human development. Political-economic distortions, particularly those associated with moving away from resource allocation through the market, appear inversely related to human development progress in sub-Saharan Africa (Prados de la Escosura, 2013b).

Figure 6: Human development and democratization in the world, 1950–2007



Sources: Democratization: Vanhanen (2011): Human Development (HIHD): Prados de la Escosura (2013a).

Cuba, the only socialist experiment in the Americas, achieved remarkable success following the revolution in 1959. This was driven exclusively by its non-income dimensions, and perhaps represents the exception over the long run.

Overall, it can be concluded that, with few exceptions, the socialist experiment has not delivered higher human development for developing countries than capitalism. Furthermore, in socialist countries, restrictions on individual choice – as collectivization, forced industrialization and political repression exemplify – severely damaged individual agency and freedom. Without the latter, progress in health and education should be depicted as contributing to 'basic needs' rather than human development (Ivanov and Peleah, 2010).

Since 1950 human development has been correlated with measured democratization (Vanhanen, 2011) and the association grows stronger as the levels rise, as can be seen in Figure 6.

What factors drive human development advancement?

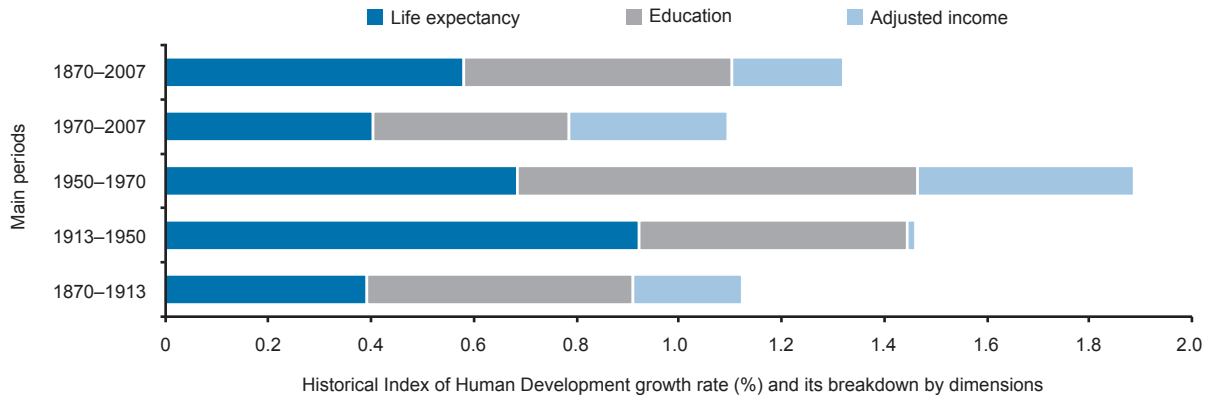
Two key social dimensions drove world human development gains over time, with life expectancy being the driving force during the 1920s and 1940s and education taking the lead during the 1930s, 1950s and 1990s (see Figure 7). A sustained progress in the indices of life expectancy at birth and education is observed in different world regions. Exceptions are the virtual stagnation of life expectancy indices in Central and Eastern Europe as of the 1960s and in sub-Saharan Africa from the 1980s onwards.

> 'Health improvements, derived from the diffusion of new technologies, have resulted not only in a longer life but also in longer healthy life years'

Scholars working in public health have identified several key sources of health improvement. One is *economic growth*, which, even without improvements in health technologies, has improved nutrition, strengthened the immune system and reduced morbidity (Stolnitz, 1955; Fogel, 2004), and has also increased resources for the public provision of health (Loudon, 2000; Cutler and Miller, 2005).

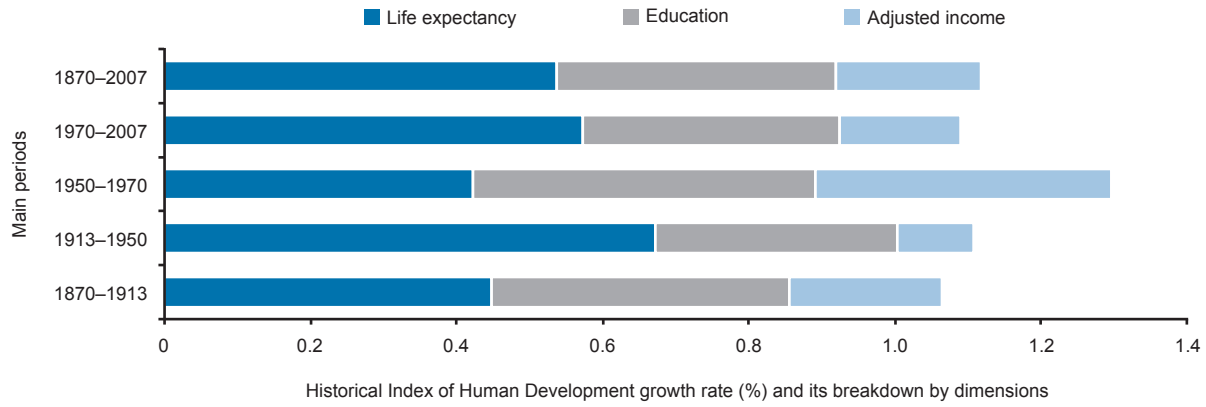
Technological change, however, has been responsible for the sustained increase in life expectancy since the late 19th century (Riley, 2005; Cutler et al., 2006). Technological advances can be grouped into two health transitions. The

Figure 7: Drivers of human development growth in the world, 1870–2000 (%)



Source: Prados de la Escosura (2013a).

Figure 8: Drivers of human development growth in the OECD, 1870–2007 (%)



Source: Prados de la Escosura (2013a).

first health transition involved diffusion of the germ theory of disease since the 1880s (Preston, 1975), the introduction of new vaccines (since the 1890s) and drugs to cure infectious diseases (sulpha drugs since the late 1930s, and antibiotics since the 1950s) (Easterlin, 1999; Jayachandran et al., 2010). The result was to reduce mortality throughout the life course, but especially in early years. A *second health transition* saw mortality falling among the elderly as a result of better treatment of respiratory and cardiovascular disease and of better health and nutrition in their early years (Eggleston and Fuchs, 2012; Deaton, 2013). It is the second transition that has accounted for the sustained gains in life expectancy at birth and healthy life years during the late 20th and early 21st centuries. Health improvements, derived from the diffusion of new technologies, have resulted not only in a longer life but also in longer healthy life years (Mathers et al., 2001).

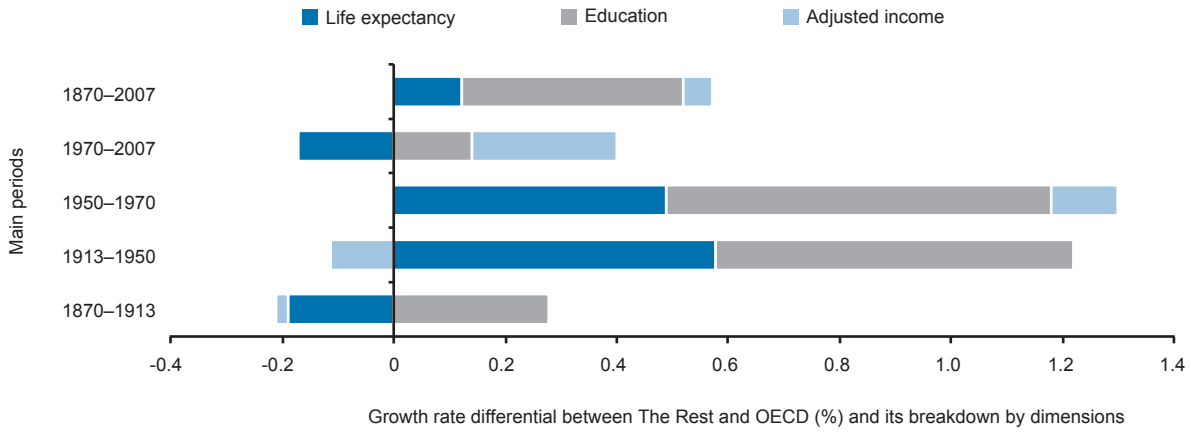
In The West, improvements in life expectancy associated with the second health transition have driven the advance in human development since 1870, as Figure 8 highlights. In The Rest, the role of life expectancy in this advance was crucial during 1913–70, while infectious diseases gave way to chronic diseases under the first health transition. But life expectancy gains have slowed down since the late 20th century.

It has often been argued that during the regulated phase of capitalism the success of The West in lifting human development was largely due to public intervention, as markets would not have contributed to the control of disease transmission, encouraged immunization or stimulated medical research (Easterlin, 1999). But has government intervention and, in particular, the expansion of social spending, really played a distinctive role in The West's well-being achievements? A positive non-linear association exists between the expansion of social protection and the improvement in human development for a group of OECD countries, but increased social spending explains the advancement of human development in The West only up to a point.

Why has The Rest of the World not fully caught up?

Catching up – measured as the difference in the human development growth rate between The Rest and The West – was concentrated between 1913 and 1970. More specifically, much of it took place before 1950 when a large proportion of The Rest was still under colonial rule (see Figure 9). Education appears as the main dimension behind human development progress and catching up, whereas since 1970, in particular, life expectancy has played a negative role in The Rest's weakness in catching up. This provides support for the view that new health technologies and knowledge at first increase health inequalities across countries, since they are introduced

Figure 9: HIHD catching up with the OECD in The Rest of the World, 1870–2007 (%)



Source: Prados de la Escosura (2013a).

earlier and at a faster pace in developed countries (Cutler et al., 2006). Only after 2000 does income per capita become the main contributor to catching up in The Rest.

The contrast between the OECD and The Rest is better understood when the role of human development dimensions in catching up is considered at the regional level. In Central and Eastern Europe most catching up took place between the 1920s and the early 1960s. Education was the driving force, except in the 1920s and the 1940s when life expectancy took the lead. In the Soviet Union, the expansion of health care was particularly successful in combating infectious disease and child mortality (Brainerd and Cutler, 2005; Brainerd, 2010a), and by the mid-1960s life expectancy at birth had converged with that of Western Europe (Mazur, 1969). From 1965, however, life expectancy fell as a result of the decline in male adult longevity, largely attributed to cardiovascular diseases and deaths through accident, suicide and alcoholism (Dutton, 1979). Increasing infant mortality since 1970 reinforced this declining trend. In the rest of the transition economies of Central and Eastern Europe, life expectancy also stagnated from the mid-1960s.

The demise of socialism in Central and Eastern Europe and the disintegration of the Soviet Union brought with them a further decline in life expectancy (Brainerd and Cutler, 2005; Brainerd, 2010b). However, in Central and Eastern Europe, life expectancy recovered quickly and began rising from the mid-1990s onwards, especially in the Czech Republic, Poland and Hungary (Stillman, 2006; Brainerd, 2010b). In the former Soviet Union, alcohol consumption and stress from the transition to a market economy (unemployment, inequality), along with deteriorating diets and health and material deprivation, were largely responsible for the increase in the mortality rate and the persistence of a decline in life expectancy (Shkolnikov et al., 2001; Brainerd and Cutler, 2005; Brainerd, 2010b).

In Latin America, there was a moderate and steady progress in human development, and catching up occurred between 1880 and 1980. Education was the leading dimension, especially during the second half of the 20th century. Increased life expectancy was especially noticeable during the early 20th century, particularly in the 1940s. This was mainly due to low-cost public health measures and the diffusion of hygienic practices, which played a major role in eradicating communicable diseases (diarrhoeal diseases, malaria and tuberculosis) (Riley, 2001 and 2005). But the treatment of infectious diseases with sulpha drugs and antibiotics, and vaccination against tuberculosis remained largely inaccessible to this region's low-income population. In Jamaica, for example, the mortality rate declined in the late 1920s and 1930s, while real GDP per capita was relatively stagnant (Riley 2001). Cuba provides a paradigm of a long-sustained mortality

rate decline, which has been ascribed to public health innovation (Díaz-Briquets, 1981; McGuire and Frankel, 2005; Ward and Devereux, 2012), largely independent of its mainly poor economic performance.

In Asia, during the last century, significant progress in human development took place, although with large regional variances. China's catching up was particularly impressive: it achieved special intensity in the inter-war and post-war periods, led by education (between 1929 and 1960) and by life expectancy (from 1913 to 1929 and then again in the 1960s). Since the pro-market reforms started in the late 1970s, the income dimension has dominated human development progress, whereas the slowdown in health improvement, particularly in the decline of infant mortality, may be a direct consequence of the government's new economic policies that switched resources to generate growth (Dréze and Sen, 2002; Cutler et al., 2006).

Over the last century, India experienced a catching-up period with the OECD, especially in the 1920s and again during the 1940s and 1950s. Education was the main long-term contributor, although life expectancy drove this progress in the first half of the 20th century. Improvements in sanitation, medical care and famine prevention contributed to reducing the impact of infectious diseases such as malaria, smallpox and cholera (McAlpin, 1983; Roy, 2006). These achievements are especially remarkable as they occurred at a time of stagnant real incomes per capita (Roy, 2006; Maddison, 2010) and indeed under colonial rule. In the last three decades, the income dimension has played a major role in human development advance, together with education. However, the infant mortality rate has fallen more slowly; this is associated, as in China, with the impact of pro-market reforms (Dréze and Sen, 2002).

In the rest of Asia (excluding Japan), catching up with the OECD can be observed since 1913, especially up to 1938 and in the aftermath of the Second World War. Education and health improvements jointly contributed to progress in human development. As in the case of India, substantial health improvements were achieved prior to independence, with the mortality rate from smallpox, cholera and plague reduced through specific public health measures in Indonesia, the Philippines and Taiwan during the 1920s (Preston, 1975).

"In Asia, during the last century, significant progress in human development took place, although with large regional variances. China's catching up was particularly impressive"

Africa's northern and sub-Saharan regions performed very differently. In the former, human development improved steadily on the basis of life expectancy and education gains that allowed the region to make significant progress in catching up with The West during the 20th century, especially in its middle decades and in the 1970s. South of the Sahara the period 1913–80 was also one of human development advance and catching-up. However, life expectancy played a leading role only in the 1930s and 1940s; after the collapse in GDP growth per capita during the last quarter of the 20th century, education served as the main driver of progress. Overall, human development advanced weakly and the region lagged behind owing to multiple factors: the stagnation of life expectancy as a result of the spread of HIV/AIDS and the resilience of malaria; and the arrested growth and deceleration in education expansion, in turn largely caused by political turmoil, civil wars and unsound economic policies (Collier, 2000; Collier and O'Connell, 2008). During the surge in human development in the 21st century, education has remained the main force, helped by the recovery in economic activity and, to a lesser extent, in life expectancy.

Conclusion

Substantial but incomplete gains in world human development have taken place during the last century and a half, although it is notable that between the First World War

and 1970 well-being improved significantly and across the board. Significant progress in life expectancy and education, and thus in human development, took place across all regions between 1920 and 1950, precisely at the time of an economic globalization backlash.

This points to a development puzzle. Why are trends in GDP per capita and human development uncorrelated over long periods of time when increases in per capita income would surely contribute to better nutrition, health and education? Does the explanation lie more with public policy (e.g. public schooling, public health, the rise of the welfare state), or with the fact that medical technology is a public good?

The choice of economic and social system had a far from negligible influence in human development across countries. Socialist and capitalist models implied different health and education policies, as well as different economic policies. Despite their initial success as providers of 'basic needs', countries that embarked on socialist experiments failed to sustain momentum and, except in the case of Cuba, became stagnant and fell behind The West prior to their demise. Moreover, as in other totalitarian experiences, their suppression of individual agency and freedom prevented real achievements in human development.

The last four decades have witnessed a widening in the absolute gap between The West and The Rest. However, this has also concealed a wide variance in regional performance. Progress and tangible signs of catching up in large areas of Asia and North Africa and, to a lesser extent, in Latin America have occurred in parallel with the collapse and falling behind of former socialist countries in Europe as well as sub-Saharan Africa overall.

Differences in the behaviour of human development dimensions help to explain both the gap between The West and The Rest, and indeed the varying performance of countries within the latter. Life expectancy is the key element in The West's forging ahead, not only because of the longer life span enjoyed by its population, but because of the higher quality of life that is associated with it. Conversely, in The Rest, life expectancy played a major role in human development gains and catching up, but only until the middle decades of the 20th century. With completion of the demographic and first health transitions, their dynamic role faded. A second wave of life expectancy gains comparable with those of The West has yet to take place. Instead, education was mainly responsible for human development progress during the last four decades, while the income dimension played a decisive role in the process of catching up with The West – positive in China and India, and negative in sub-Saharan Africa, Russia and the former Soviet republics of Central and Eastern Europe.

This development puzzle raises a number of key questions. For example, why did life expectancy stop being the driving force of world human development as the first health transition was concluded? Why has a second health transition not been initiated in The Rest to match the one that is under way in The West? Is there a lack of public policies, or a polarizing effect of new medical technologies? Is it that health and education are highly income-elastic? Or are political and institutional factors the main barriers? These questions deserve further investigation, as the answers are likely to have far-reaching policy ramifications for future generations.

References

Acemoglu, D. and Johnson, S. (2007), 'Disease and Development: The Effects of Life Expectancy on Economic Growth', *Journal of Political Economy*, 115: 925–85.

Altinok, N., Diebolt, C. and Demeulemeester, J.L. (2013), 'A New International Dataset on Education Quality, 1965–2010', AFC Working Papers 3.

Anand, S. and Sen, A.K. (2000), 'The Income Component of the Human Development Index', *Journal of Human Development*, 1: 83–106.

Benavot, A. and Riddle, P. (1988), 'The Expansion of Primary Education, 1870–1940: Trends and Issues', *Sociology of Education*, 61: 191–210.

Brainerd, E. (2010a), 'Reassessing the Standard of Living in the Soviet Union: An Analysis Using Archival and Anthropometric Data', *Journal of Economic History*, 70(1): 83–117.

Brainerd, E. (2010b), 'Human Development in Eastern Europe and the CIS since 1990', UNDP Human Development Research Paper 16.

Brainerd, E. and Cutler, D.M. (2005), 'Autopsy on an Empire: Understanding Mortality in Russia and the Former Soviet Union', *Journal of Economic Perspectives*, 19(1), 107–30.

Collier, P. (2000), 'Ethnicity, Politics, and Economic Performance', *Economics and Politics*, 12: 225–45.

Collier, P. and O'Connell, S.A. (2008), 'Opportunities and Choices', in B.J. Ndulu, S.A. O'Connell, J.P. Azam, R.H. Bates, A.K. Fosu, J.W. Gunning and D. Njinkeu (eds), *The Political Economy of Economic Growth in Africa, 1960–2000* (Cambridge: Cambridge University Press), Vol. I: 76–136.

Cutler, D. and Miller, G. (2005), 'The Role of Public Health Improvements in Health Advance: The Twentieth Century United States', *Demography*, 42(1): 122.

Cutler, D., Deaton, A. and Lleras-Muney, A. (2006), 'The Determinants of Mortality', *Journal of Economic Perspectives*, 20(1): 97–120.

Deaton, A. (2008), 'Income, Health, and Wellbeing around the World: Evidence from the Gallup World Poll', *Journal of Economic Perspectives*, 22(2): 53–72.

Deaton, A. (2013), *The Great Escape. Health, Wealth and the Origins of Inequality* (Princeton, NJ: Princeton University Press).

Desai, M. (1991), 'Human Development: Concept and Measurement', *European Economic Review*, 35: 350–57.

Díaz-Briquets, S. (1981), 'Determinants of Mortality Transition in Developing Countries Before and After the Second World War: Some Evidence from Cuba', *Population Studies*, 35: 399–411.

Dréze, J. and Sen, A.K. (2002), *India: Development and Participation* (Delhi: Oxford University Press).

Dutton, J. Jr. (1979), 'Changes in Soviet Mortality Patterns, 1959–77', *Population and Development Review*, 5: 267–91.

Easterlin, R.A. (1999), 'How Beneficent is the Market? A Look at the Modern History of Mortality', *European Review of Economic History*, 3: 257–94.

Eggleston, K.N. and Fuchs, V. (2012), 'The New Demographic Transition: Most Gains in Life Expectancy Now Realized Late in Life', *Journal of Economic Perspectives*, 26(1): 137–56.

Fleurbaey, M. (2009), 'Beyond GDP: The Quest for a Measure of Social Welfare', *Journal of Economic Literature*, 47: 1029–75.

Fogel, R.W. (2004), *The Escape from Hunger and Premature Death, 1700–2010. Europe, America, and the Third World* (New York: America and Cambridge University Press).

Hanushek, E.A. and Kimko, D.D. (2000), 'Schooling, Labor-Force Quality, and the Growth of Nations', *American Economic Review*, 90: 1184–208.

Hatton, T.J. and Bray, B.E. (2010), 'Long Run Trends in the Heights of European Men, 19th–20th Centuries', *Economics and Human Biology*, 8: 405–13.

Ivanov, A. and Peleah, M. (2010), 'From Centrally Planned Development to Human Development', UNDP Human Development Research Paper 38.

Jayachandran, S., Lleras-Muney, A. and Smith, K.V. (2010), 'Modern Medicine and the Twentieth Century Decline in Mortality: Evidence on the Impact of Sulfa Drugs', *American Economic Journal: Applied Economics*, 2(1), 118–46.

Kakwani, N. (1993), 'Performance in Living Standards. An International Comparison', *Journal of Development Economics*, 41: 307–36.

Lindert, P.H. (2004), *Growing Public: Social Spending and Economic Growth since the Eighteenth Century* (Cambridge: Cambridge University Press).

Lindert, P.H. and Williamson, J.G. (2003), 'Does Globalization Make the World More Unequal?', in M. Bordo, A.M. Taylor and J.G. Williamson (eds), *Globalization in Historical Perspective* (Chicago, IL: University of Chicago Press/NBER).

Loudon, I. (2000), 'Maternal Mortality in the Past and its Relevance to Developing Countries Today', *American Journal of Clinical Nutrition*, 72(1) (supplement): 241S-6S.

Maddison, A. (2010), *Statistics on World Population, GDP and per Capita GDP, 1–2008 AD*, available online at http://www.ggdc.net/maddison/.

Mathers, C.D., Sadana, R., Salomon, J.A., Murray, C.J.L. and Lopez, A.D. (2001), 'Healthy Life Expectancy in 191 Countries', *Lancet*, 357: 1685–91.

Mazur, D.P. (1969), 'Expectancy of Life at Birth in 36 Nationalities of the Soviet Union: 1958–60', *Population Studies*, 23: 225–46.

McAlpin, M.B. (1983), 'Famines, Epidemics, and Population Growth: The Case of India', *Journal of Interdisciplinary History*, 14: 351–66.

McGuire and Frankel, L.B. (2005), 'Mortality Decline in Cuba, 1900–1959: Patterns, Comparisons, and Causes', *Latin American Research Review*, 40: 83–116.

Oulton, P. (2012), *Hooray for GDP!*, LSE Centre for Economic Performance Occasional Paper 30.

Prados de la Escosura, L. (2013a), 'World Human Development, 1870–2007', Universidad Carlos III Working Papers in Economic History 13-01.

Prados de la Escosura, L. (2013b), 'Human Development in Africa: A Long-run Perspective', *Explorations in Economic History*, 50: 179–204.

Prados de la Escosura, L. (2014a), 'World Human Development, 1870–2007', *Review of Income and Wealth*, DOI: 10.1111/roiw.12104.

Prados de la Escosura, L. (2014b), 'Inequality and Polarization of International Living Standards, 1870–2007' (mimeo).

Preston, S.H., (1975), 'Mortality and Level of Development', *Population Studies*, 29: 231–48.

Riley, J.C. (2001), *Rising Life Expectancy: A Global History* (New York: Cambridge University Press).

Riley, J.C. (2005), *Poverty and Life Expectancy: The Jamaica Paradox* (New York: Cambridge University Press).

Roy, T. (2006), *The Economic History of India 1857–1947* (New Delhi: Oxford University Press).

Salomon, J.A., Wang, H., Freeman, M.K., Vos, T., Flaxman, A.D., Lopez, A.D. and Murray, C.J.L. (2012), 'Healthy Life Expectancy for 187 Countries, 1990–2010: A Systematic Analysis for the Global Burden Disease Study 2010', *Lancet*, 380: 2144–62.

Sen, A.K. (1981), 'Public Action and the Quality of Life in Developing Countries', *Oxford Bulletin of Economics and Statistics*, 43: 287–319.

Sen, A.K. (1985), *Commodities and Capabilities* (Amsterdam: North Holland).

Sen, A.K. (1987), *Standard of Living* (New York: Cambridge University Press).

Sen, A.K. (1997), 'Human Capital and Human Capability', *World Development*, 25: 1959–61.

Sen, A.K. (1999), *Development as Freedom* (Oxford: Oxford University Press).

Shkolnikov, V., McKee, M. and Leon, D.A. (2001), 'Changes in Life Expectancy in Russia in the mid-1990s', *Lancet*, 357: 917–21.

Stiglitz, J.E., Sen, A.K and Fitoussi, J.P. (2009), *The Measurement of Economic Performance and Social Progress Revisited: Reflections and Overview*, http://www.stiglitz-sen-fitoussi.fr/en/documents.htm.

Stillman, S. (2006), 'Health and Nutrition in Eastern Europe and the Former Soviet Union during the Decade of Transition: A Review of the Literature', *Economics and Human Biology*, 4: 104–46.

Stolnitz, G.J. (1955), 'A Century of International Mortality Trends', *Population Studies*, 9: 24–55.

UNDP (United Nations Development Programme) (1990–2013), *Human Development Report* (New York: Oxford University Press).

Vanhanen, T. (2011), *Measures of Democracy 1810–2010*, FSD1289, version 5.0 (2011–07–07), Finnish Social Science Data Archive, Tampere, available online at www.fsd.uta.fi/en/data/catalogue/FSD1289/meF1289e.html.

Ward, M. and Devereux, J. (2012), 'The Road Not Taken: Pre-Revolutionary Cuban Living Standards in Comparative Perspective', *Journal of Economic History,* 72: 104–32.

About CAGE

Established in January 2010, CAGE is a research centre in the Department of Economics at the University of Warwick. Funded by the Economic and Social Research Council (ESRC), CAGE is carrying out a five-year programme of innovative research.

The Centre's research programme is focused on how countries succeed in achieving key economic objectives, such as improving living standards, raising productivity and maintaining international competitiveness, which are central to the economic well-being of their citizens.

CAGE's research analyses the reasons for economic outcomes both in developed economies such as the UK and emerging economies such as China and India. The Centre aims to develop a better understanding of how to promote institutions and policies that are conducive to successful economic performance and endeavours to draw lessons for policy-makers from economic history as well as the contemporary world.

The CAGE–Chatham House Series

This is the twelfth in a series of policy papers published by Chatham House in partnership with the Centre for Competitive Advantage in the Global Economy (CAGE) at the University of Warwick. Forming an important part of Chatham House's International Economics agenda and CAGE's five-year programme of innovative research, this series aims to advance key policy debates on issues of global significance.

Other titles available:

- *Saving the Eurozone: Is a 'Real' Marshall Plan the Answer?*
  Nicholas Crafts, June 2012
- *International Migration, Politics and Culture: the Case for Greater Labour Mobility*
  Sharun Mukand, October 2012
- *EU Structural Funds: Do They Generate More Growth?*
  Sascha O. Becker, December 2012
- *Tax Competition and the Myth of the 'Race to the Bottom': Why Governments Still Tax Capital*
  Vera Troeger, February 2013
- *Africa's Growth Prospects in a European Mirror: A Historical Perspective*
  Stephen Broadberry and Leigh Gardner, February 2013
- *Soaring Dragon, Stumbling Bear: China's Rise in a Comparative Context*
  Mark Harrison and Debin Ma, March 2013
- *Registering for Growth: Tax and the Informal Sector in Developing Countries*
  Christopher Woodruff, July 2013
- *The Design of Pro-Poor Policies: How to Make Them More Effective*
  Sayantan Ghosal, July 2013
- *Fiscal Federalism in the UK: How Free is Local Government?*
  Ben Lockwood, September 2013
- *The Danger of High Home Ownership: Greater Unemployment*
  David G. Blanchflower and Andrew J. Oswald, October 2013
- *Saving the Euro: A Pyrrhic Victory?*
  Nicholas Crafts, November 2013

Leandro Prados de la Escosura, DPhil (Oxford) and PhD (Complutense, Madrid), is Professor of Economic History at Universidad Carlos III, Madrid. He is a Research Fellow at the Centre for Economic Policy Research (CEPR) and a Research Associate at the Centre for Competitive Advantage in the Global Economy (CAGE). He has taught at Georgetown University and UC San Diego. He has been a Visiting Fellow at All Souls College, Oxford, the London School of Economics (LSE), and the European University Institute. He is Leverhulme Visiting Professor at the LSE (2013–14). He served as President of the European Historical Economics Society (2001–03) and in the Executive Committee of the International Economic History Association (2006–12). He is a member of the editorial board of *Explorations in Economic History* and *Cliometrica*, and the advisory boards of the *European Review of Economic History* and the *Scandinavian Economic History Review*. His current research interests are economic freedom and well-being in historical perspective; growth and welfare in Latin America since independence; and inequality in pre-industrial Spain.

Financial support for this project from the Economic and Social Research Council (ESRC) is gratefully acknowledged.

Chatham House has been the home of the Royal Institute of International Affairs for ninety years. Our mission is to be a world-leading source of independent analysis, informed debate and influential ideas on how to build a prosperous and secure world for all.

Chatham House
10 St James's Square
London SW1Y 4LE
www.chathamhouse.org

Registered charity no: 208223

Cover image: istockphoto.com

Designed and typeset by Soapbox, www.soapbox.co.uk