

Funding in Higher Education and Economic Growth in France and the United Kingdom, 1921-2003*

by

Vincent Carpentier

University of London, United Kingdom

The UK 2004 Higher Education Act generated important debates about the relationships between higher education (HE), economic growth and social progress. The range of positions expressed in relation to the increase of annual tuition fees raises crucial questions about the public and private funding of higher education and its individual and social economic benefits. Such controversies have a strong resonance in France where discussion about HE underfunding has already emerged. This article seeks to inform these current debates by combining economic and historical perspectives within a quantitative approach. The analysis of new historical series on funding and development of UK universities since the 1920s and the comparison with similar data for France has put into evidence a long-term link between HE funding and economic fluctuations. In both countries, the expansion in university resources was not linear and may be related to the impact of long economic cycles on public funding. Moreover, in the UK case, private funding periodically increased in order to replace diminishing public funding, rather than taking the form of additional resources. In consequence, private funds did not provide an overall rise in the universities' income. The considerable fluctuations of funding, combined with a more consistent growth of enrolment, led to a recurrent mismatch between resources for and access to higher education. This can explain the wide fluctuations of resources per student over the period and the current underfunding situation. Such historical trends question whether, in the future, increased fees will be a substitute for public spending. Or will variable fees be combined with even greater increases in public funding as part of a national project to support HE students from all social backgrounds and to boost expenditure per student?

* This article is a substantially developed version of a paper published as "Cycles longs et financement universitaire : une perspective historique sur les réformes actuelles au Royaume-Uni", *Économies et Sociétés, Cahier de l'ISMEA, Hors Série, n° 40* (2005), pp. 1607-1634.

Introduction

The close Parliamentary vote on the UK 2004 Higher Education Act confirmed the contentiousness of the issues addressed in the White Paper on the Future of Higher Education (DfES, 2003). The main controversy focuses on the implications of the introduction of variable annual student tuition fees of up to GBP 3 000 in England. Following the Dearing Report's recommendations (1997), the government considered higher fees as necessary additional resources to resolve underfunding in a context of competition from international universities. Access to higher education will not be compromised, the government argues, because upfront fees are to be abolished and financial support is to be offered to students from poor backgrounds (Barr, 2003a). But opponents have drawn attention to the deterrent effect of the rising levels of debt for students upon graduation (Callender, 2003) and a potential increase of inequality between higher education institutions (Ainley, 2005; Brown, 2005). Similar concerns were directed towards the Conservatives' counter proposition to replace fees with higher interest rates for students' loans (Carpentier, 2004a).

Although there is a consensus on the need to reform higher education, different views are expressed about the extent and the nature of changes to be implemented. Most controversies focus on alternative ways of financing higher education and on the orientation its development and democratisation should take. Key issues concern the relative contributions of private and public finance, the possible effects in terms of attendance and equity and the benefits for the society as a whole. The range of positions expressed in relation to top up fees raises crucial questions about the public and private funding of higher education and its individual and social economic benefits (Barr, 2003a; Dearden *et al.*, 2005).

Such issues are not specific to the UK but have become a worldwide concern (OECD, 2004). For example, the UK debate has a strong resonance in France where discussion about HE underfunding has already emerged. Demichel acknowledged that free of charge higher education "is taken for granted in France" and is part of a culture that will be difficult to change (2000, p. 14). However, a recent study on education and economic growth has shown that some universities have already introduced extra fees for specific services related to sport, photocopying and registration (Aghion and Cohen, 2004, p. 75). A recent parliamentary report stated that the question of fees cannot be ignored indefinitely while insisting that no reform could succeed without a

consensus. The report added that, in contrast to Anglo-Saxon countries where higher education is more generally perceived as an investment, higher fees could only be introduced in France with the assurance that this will not harm democratisation (Herbillon, 2004). As in the UK, support for higher fees is seen as an opportunity to address the underfunding issue and compete in the knowledge economy. This was stressed in a report to the French Ministry of Economy which strongly advocated a debate about the principle of free HE (Camdessus, 2004). Supporters of higher fees also raise the equity issue: the current system, which combines funding based on low fees and high taxes with a restricted participation by social class, would lead to a “perverse system of redistribution from the least rich to the wealthiest” (Belloc, 2003). Proposed measures vary from sharing the cost of higher education between the state and students (Plassard and Bergès, 1998; Gary-Bobo and Trannoy, 2005) to a deregulation of HE (Lorenzi and Payan, 2003). These controversies are fairly recent and one can expect that such propositions will generate questions on the potential of higher fees to promote equity and on the long-term impact of such a move on participation and the economy.

This article draws on findings from an ESRC-funded research which sought to inform these current debates by examining the long-term links between HE funding and economic fluctuations (Carpentier, 2004b). The aim was to construct and analyse historical series on funding and development of UK universities since the 1920s in order to explore continuities and contrasts with previous HE controversies. Although the article is mainly about the UK, it also intends, by comparing similar historical statistics concerning the funding and development of French universities, to identify similarities and differences between the two countries.

The article is divided into four parts. The first part presents the methodology. The second provides an overview of the main transformations of higher education in France and the UK since the 1920s charting the fluctuations of funding and access. The third part concentrates on the UK and draws on historical perspectives distinguishing different regimes of higher education with specific articulations of funding and access policies. Finally, some conclusions are drawn.

A multidisciplinary approach to HE finance

This article combines economic and historical perspectives within a quantitative approach in order to locate some of the socio-economic driving forces behind the expansion of higher education.

Economic theory and HE policy

Both before and during the debates surrounding the White Paper, there have been fruitful attempts to assess the links between funding and access in higher education and the economy (Barr, 1993; Williams, 1992) and to provide an answer to the fundamental question of “how to pay for mass, high quality higher education” (Barr, 2003b). Following the path of human capital theory (Schultz, 1961; Becker, 1962), many researchers sought to evaluate and arbitrate between public and private funding of HE and its private and social returns (wages and externalities) (Blundell *et al.*, 2000; Mace, 2001; Chevaillier and Eicher, 2002; Wolf, 2002; Barr, 2003a; Johnstone, 2004).

This article seeks to contribute to these debates by examining the links between the funding and development of higher education and socio-economic changes through the theory of systemic regulation. This theory attempts to interpret transformations of the economic system in terms of developing connections with spheres (like education) that are influenced, but not fully determined, by economic dimensions (Fontvieille, 1990; Michel, 1999). The theory suggests that, as education may not only represent a cost for the economy, but also furnish a main determinant of its growth, the development of the educational system may be interpreted, in part, as the outcome of regulation processes between public expenditure on education and long economic cycles. Previous work has shown that the fluctuations of public expenditure on education in the UK since 1833 were connected to 50-year Kondratiev economic cycles (Carpentier, 2003). Similar findings were observed in France (Fontvieille, 1990; Carry, 1999).

Moreover, the fluctuations were reversed to economic cycles before 1945 and then synchronised in both countries. Before 1945, the rapid growth of public funding on education during periods of economic downturn may be explained in terms of an attempt to revive the economy. On the contrary, after 1945, the growth of public educational resources accelerated during the period of post-war prosperity, only to go into decline following the economic crisis of 1973. The 1945 transition to procyclical public educational expenditure may represent the recognition of education as a driving force in the economic system rather than simply a means of correction. In this context, the post-1973 reforms would characterise different options in the search for a new regulation process in order to pursue educational development in a context marked by slowing down of public funding. Such a framework strongly echoes the current debates on higher education.

The article proposes to focus on the specific role of higher education in such a process and seeks to investigate potential relationships between economic fluctuations and the level and structure of funding of universities. HE policy is examined in relation to its wider socio-economic environment

(Campbell et al., 2003). The concept of regime of higher education is proposed as an illustration of the interactions between the internal (quantitative and qualitative developments of HE) and external contexts (social change and economic fluctuations) that affect the evolution of higher education. Historically, the successive regimes of higher education would therefore characterise the degree of adequacy between funding and access policies as illustrated by the long-term fluctuations of funding per student.

Towards a socio-economic history of education

This theoretical framework interrogates economic and social interfaces with higher education that were, and still are, major issues for policy making. As Aldrich noted, “the historical perspective indicates the complexity of the relationship between education and economic performance” (1996, p. 109). The historical dimension is therefore crucial in order to reveal the long-term factors that could explain the current relationship between higher education and economic systems. There is a mutual interest in combining economic and historical analysis to understand current educational policies. On the one hand, history can supplement the economic analysis which tends to elude the influence of cultural and socio-political factors on education. On the other hand, some historians of education have recently pleaded for more recognition of the economic dimension in order to interpret past educational policies (Richardson, 1999, p. 132; Goodman and Martin, 2004; Sanderson, 2005).

The approach developed here can be defined as a socio-economic history of education following Simon’s idea that “the fundamental educational issues have remained the same through the years – who should be educated, how, to what level or different levels of the service of what social or industrial needs? – So the conditioning social and economic factors continue to operate” (1989, p. 79). The aim of this article is to complement previous histories of higher education (Briggs, 1969; Sanderson, 1972; Anderson 1992) with a particular focus on economic issues through a quantitative evaluation of the impact of past reforms on universities’ funding and enrolment.

A quantitative history of funding and development of UK universities (1921-2003)

Following previous quantitative research on higher education (Halsey and Webb, 2000), this study seeks to furnish data about the nature and level of financial resources for higher education, and about the extent to which higher education, in turn, affects the nature and level of resources. The methodology of quantitative history based on the principles of national accounting is used in order to collect and process long-term data (Marczewski, 1961).

The dataset that was produced gathers historical series on funding and development of universities from the early 1920s and is the result of research into primary and secondary governmental and institutional sources; it is now part of the UK Data Archive (Carpentier, 2004c). Funding indicators include the level of the income of universities and its distribution according to its origins (public/fees/endowment/research), the level of expenditure and its distribution by economic categories (wages/consumption/investment). Non-financial data include the number of students and its distribution according to gender, country of origin and other enrolment's characteristics (full or part time and undergraduate or postgraduate), the number of awards and diplomas, the number and structure of staff.

These historical series refer to pre-1992 universities and include all institutions delivering degrees afterwards. It has been difficult to obtain historical data on expenditure relating to advanced courses in colleges of further education. It was also impossible to distinguish between resources devoted to advanced and non-advanced courses within the same establishment. Prior to 1992, therefore, data are supplied only for universities. From 1994, data relating to advanced courses in polytechnics and further education are included.

In addition, the article proposes a comparative perspective dimension which is usually less common for higher education than primary and secondary levels (Crook and McCulloch, 2002). A comparison with the French perspective is helpful in determining the uniqueness or otherwise of the UK development. Previous research highlighted specific developments of HE in France and England in relation to their respective economic policies following the oil crisis of the early 1970s while underlining the possibility of a future convergence (Deer and de Meulemeester, 2004; de Meulemeester, 2003). French data originate from Carry's (1999) quantitative work on education funding until 1996 and have been updated with governmental data (DEP, 1984-2003). Data on enrolment are based on the *Annuaire Statistique de la France* (DSG, 1920-1945; INSEE, 1946-2003). Population data are based on Vallin and Meslé's (2001) work.

The primary aim of this multidisciplinary examination is to investigate the mechanisms that regulated the articulation between the funding and development of higher education and its relationship with the socio-economic system, seeking to resituate the complexity of the current situation.

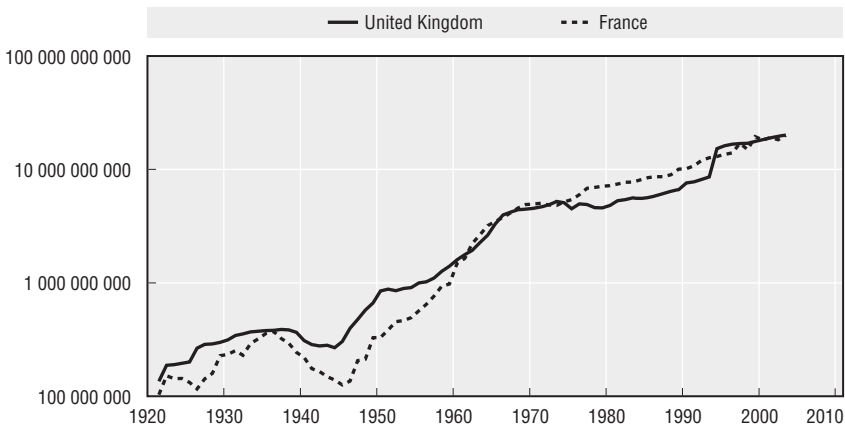
An overview of the growth of the HE system: 1921-2003

Since the early 1920s, UK and French higher education have experienced tremendous transformations. Among them, significant changes in the level and structure of universities' funding and enrolment may explain the current underfunding situation.

The rise of funding and enrolment but the instability of expenditure per student

The first result shows a dramatic increase in funding for UK and French universities. The Geary-Khamis dollar expresses purchasing power parity, eliminating differences in price level between countries (Maddison, 2000). UK and French expenditure at 1990 prices in 2003 are respectively 150 and 190 times greater than in the 1920s. Over the period the share of GDP dedicated to the funding of universities rose from 0.06% to 1.4%. The equivalent figures for France are respectively 0.06% and 1.22%.

Figure 1. **Expenditures of universities (1990 Geary Khamis \$), 1921-2003**



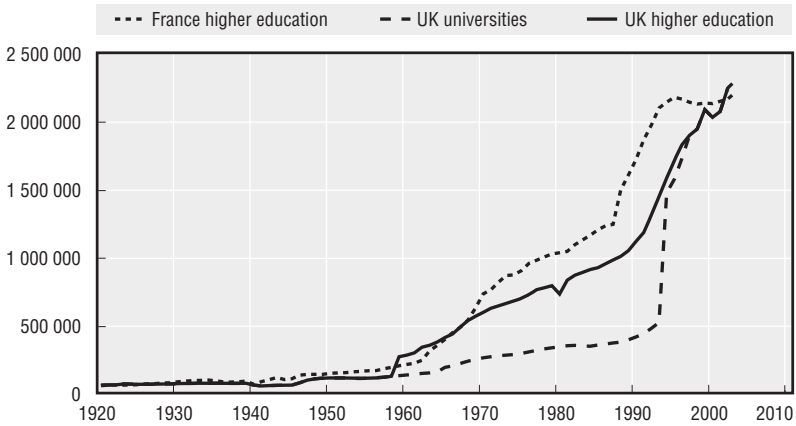
Source: Carpentier (2004c).

However, while expenditure increased, the number of students grew 40-fold in both countries.

More significantly, the number of students in UK universities as a share of the 18-30 age group rose from 1.3% to 25% between 1955 and 2002. In France the ratio rose from 2.1% to 23% (Carpentier, 2004b). This rate is lower than the 43% figure traditionally associated with participation in the United Kingdom and related to the government’s 50% target for 2010. The se figures are for the Initial Entry Rate for higher education which sums the percentages of the age group who enter higher and further education colleges for the first time in each year of age between 18 and 30 (Ramsden, 2003).

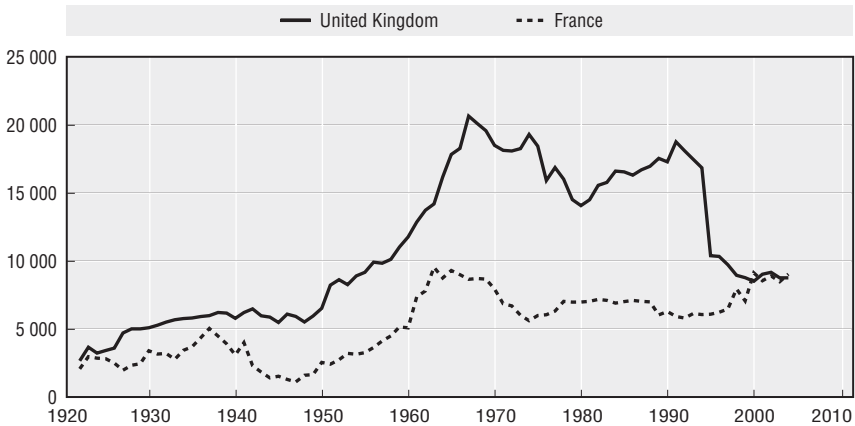
Over the whole period massive increases in enrolment were reflected in massive increases in funding. Nevertheless, there were considerable variations within this overall rise. For example, in 2003, expenditure per student in the United Kingdom was more than 3.5 times its level in 1921 (4.5 times in France). In 2003, however, expenditure per student was less than a half of the level

Figure 2. **Number of students, 1921-2003**



Source: Carpentier (2004c).

Figure 3. **University expenditure per student (1990 Geary Khamis \$), 1921-2003**



Source: Carpentier (2004c).

of 1973. It is worth noting that falling expenditure per student, which was one of the central issues of the White Paper, began in 1990, before the re-designation of the polytechnics.

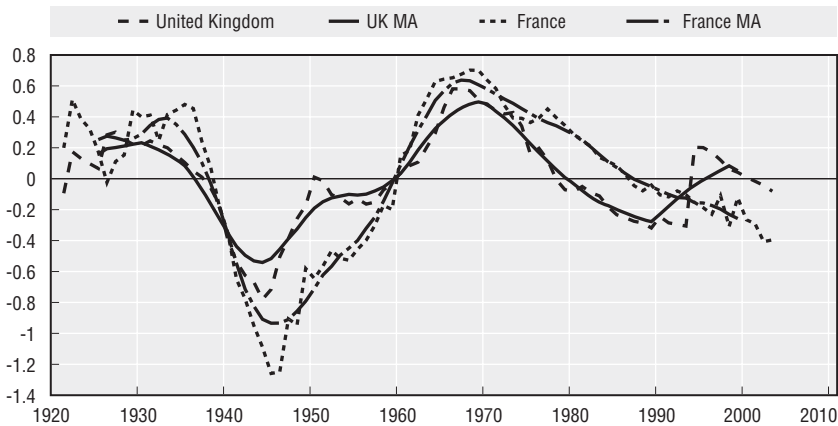
British and French expenditure per student were similar both at the beginning and at the end of the period. Much wider fluctuations, however, occurred in the United Kingdom. The following part examines the origins and consequences of these fluctuations by comparing and contrasting the historical evolution of funding and attendance.

Long economic cycles, university income and access

UK university expenditure conforms to the connections between resources and long economic cycles observed in other levels of education (Carpentier, 2003). The long-term expansion in resources devoted to higher education was not linear and may be related to Kondratiev cycles (Figure 4). Four Kondratiev cycles of approximately 50 years have been identified, each showing expansion and depression phases (1790-1820/1820-1848; 1848-1870/1870-1897; 1897-1913/1913-1945; 1945-1973/1973-?) (Loucã and Reinjders, 1999).

The increase of expenditure during the 1920s was brought to a halt by the aftermath of the 1929 crisis. The period of prosperity following 1945 led to a dramatic rise of expenditure, although this was halted in 1967 as a consequence of a decrease in capital expenditure that had been driven by the expansion of civic universities and the establishment of new universities. The real funding downfall followed the oil crisis of 1973 and continued until the current period, although a revival of expenditure occurred in the early 1990s with the integration of polytechnics.

Figure 4. **University expenditure, 1990 Geary-Khamis \$, 1921-2003**
(2nd order deviation from the regression curve
and nine-year moving averages (MA), $R^2 = 0.96$ and 0.93)



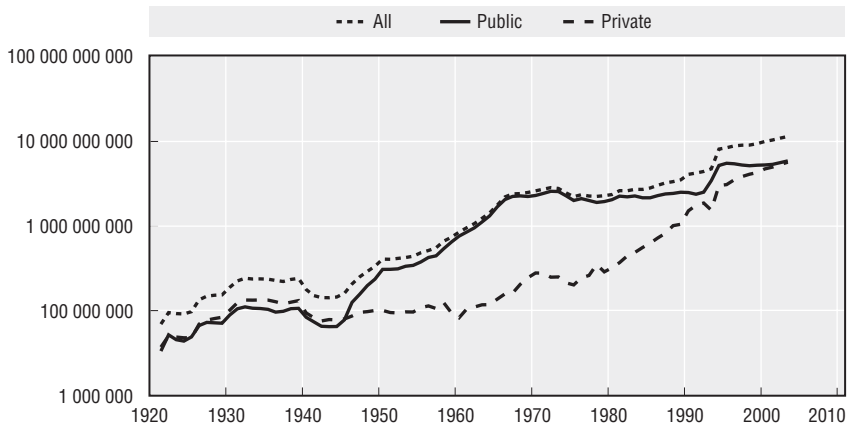
Source: Carpentier (2004c).

A similar pattern may be observed in France where fluctuations also corresponded to Kondratiev cycles. However, France and the United Kingdom experienced different evolutions with respect to the structure of HE funding. There have been some profound organisational transformations in French higher education since the late 1960s resulting in a move away from the old *faculté* and towards the emergence of a *université* identity (Mignot-Gérard, 2003;

Musselin, 2004). The 1968 Faure Act initiated this process by structuring the universities around the principles of autonomy, participation in decision making and multidisciplinary (Minot, 1984). This process met with some resistance but was continued by the 1984 Savary Act which also broadened the funding of higher education mainly from regional government but also from new private resources. In addition to the traditional private contributions like the *taxe d'apprentissage* (paid directly by firms to universities in exchange of a tax remit) and fees, universities are allowed to generate extra income from donations, contracted services, patents and publications. A 1986 White Paper which sought to raise the level of fees was rejected after intense strikes, while in 1988, a four year contract between universities and the ministry was established in order to move towards a tighter control of funding.

While such reforms represent turning points and a return to the autonomy that universities had lost at the turn of the 18th century (Charle, 1995, p. 17), the income structure of French universities did not change radically over the period. The rise of the share of private resources from 5% in 1960 to 13% today indicates potential developments rather than the transformation of a system which is still essentially publicly funded. In contrast, the relative contributions of public and private resources are key elements in the evolution of the income of UK universities.

Figure 5. **Income of UK universities (GBP 1990), 1921-2003**



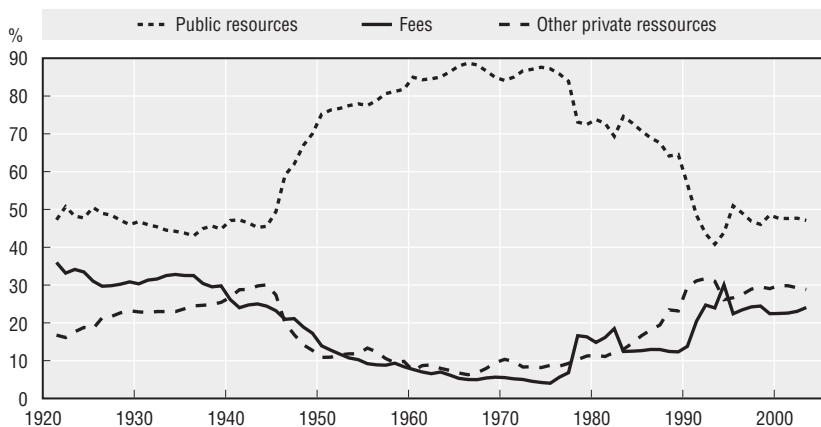
Source: Carpentier (2004c).

Figure 5 shows that public funding was the driving force of university income until the 1980s. Variations in public resources generated the Kondratiev-related fluctuations in HE funding observed above. Public funding nourished the post-war growth of HE income and put a brake on it after 1973 in the context of spending cuts. The revival of income growth did not take place until the

early 1980s with a rise in private funding. However, such an increase did not fully compensate for the reduction in public funds and so only partially restored the overall growth in income.

Figure 6 shows that such movements led to substantial changes in the repartition between public and private income of universities. Between 1921 and 1945 public and private resources contributed in broadly equal amounts to the income of universities. Thereafter the share of public funding rapidly increased and reached 90% in 1973. It then fell, so that by the beginning of the 21st century the 50/50 distribution had been restored.

Figure 6. **Income structure of universities, United Kingdom, 1921-2003**

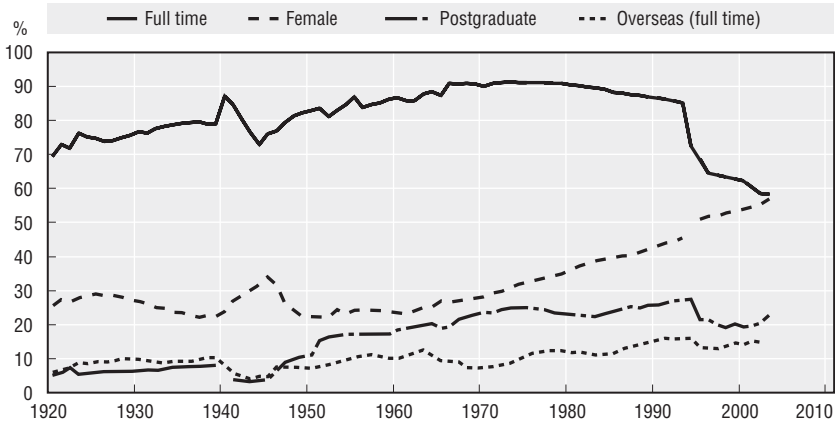


Source: Carpentier (2004c).

Research was also a major part of the transformation of the income structure of UK universities. The share of university specific funding dedicated to research increased from 5% in 1957 to 15% in 2002. The share of public funding of research increased from 50% to 65% from 1957 to 1973 and then started declining to reach 57% in 2002 (Carpentier, 2004c).

The effect of public funding on the income structure of educational institutions was crucial in the development of enrolment in primary education in the late 19th century and in secondary education during the first half of the 20th century (Carpentier, 2003). Such mechanisms became increasingly important in higher education where access policies were still affected by a mixture of public and private funds. In France, where the level of fees remains low over the period, the expansion of enrolment in higher education was mainly driven by policies dedicated to increase participation at the upper secondary level.

Figure 7. **Characteristics of students, United Kingdom, 1921-2003**



Source: Carpentier (2004c).

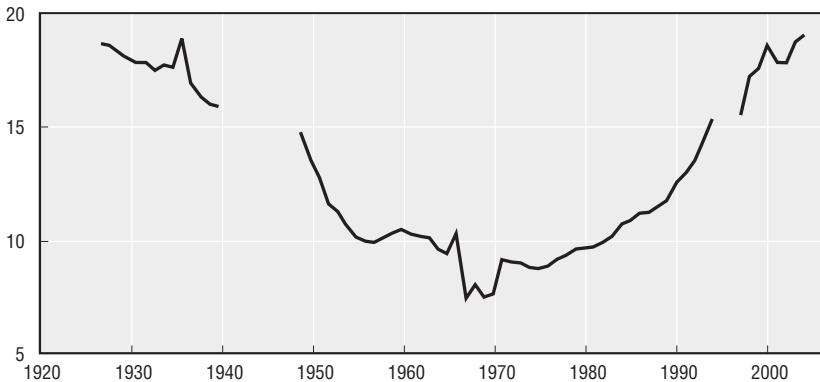
Between 1921 and 1974 the share of university income originating from fees decreased from 36% to 4% and rose thereafter to reach 23% in 2002 (Figure 6). Such changes may have influenced enrolment's extent and characteristics, especially as tuition fees are one of the main factors affecting access. Economic cycles and public resources had an impact on the structure and levels of funding of universities and on the replacement of fees by public funding. This leads to the crucial question: Does access drive funding or funding drive access, or both? Increased enrolment was accompanied by a decrease of fees from 1945 to 1973 (Figure 6), especially after 1958 and the implementation of tuition fees subsidies. The post-1973 era led to the partial withdrawal of subsidies in a context of the control of public funding. The number of new students slowed down during the 1980s to grow again during the 1990s. The impact of the increase of fees on access depends on the crucial role of financial aid to poorer students.

Fluctuations of public expenditure may be associated not only with the number of students but also with a change of their characteristics. The proportion of postgraduates rose from 6% to 23% from 1947 to 1973 and remained stable afterwards. The share of full time students rose from 69% to 90% over the same period and has subsequently dropped to 58% nowadays.

The share of foreign students was quite consistent over the period, driven by the access from students from the Empire and Commonwealth and other overseas students. However, economic fluctuations also provoked changes in policy towards non-European Union students who became subject to full cost fees from 1981. This was encouraged in order to provide extra resources for universities in the context of cuts in public funding since the 1970s.

In contrast, the share of women students was not affected by economic fluctuations (Figure 7). While things are not clear during the inter war years (a possible decrease of women students after the 1930s crisis demands more research), the increasing participation of women in higher education after the end of the Second World War was not jeopardised by the economic difficulties of the 1970s. This confirms Dyhouse's findings that the proportion of women in higher education increased during the 1960s and even more dramatically during the 1970s for various reasons like the drop in early marriages, the new universities of the 1960s, the end of quotas and more career opportunities for women graduate (2005). Therefore, alongside economic explanations, feminisation should be considered as a major factor of the historical expansion of HE enrolment and funding in both countries.

Figure 8. **Number of students per full time academic staff, United Kingdom, 1926-2003**



Source: Carpentier (2004c).

As a whole, all those indicators suggest that the elite system provided many resources compared to the limited number of students, prior to the mass system that developed in the 1960s in a context of growing funding. The increase of enrolment was maintained in the 1970s in a context of diminishing resources. In this context, access might have been developed to the detriment of quality. Figure 8 shows that the student/full-time staff ratio decreased until the early 1970s and increased thereafter. This increase may also be the consequence of the casualisation of staff.

These developments suggest that diminishing funding per student led to a change of characteristics of students and more differentiation. Similar results were observed in France where many researchers insisted on the difference between expansion and democratisation of higher education (Verger, 1984, p. 404; Deer, 2005).

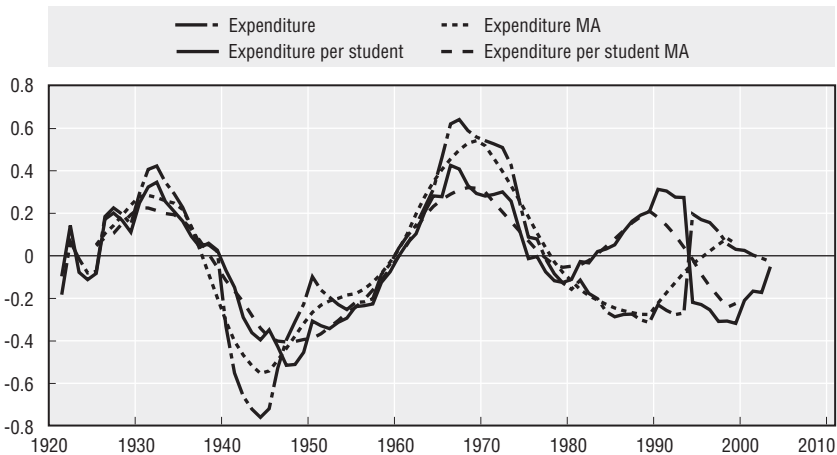
The historical lens seems to show connections between the level and the structure of universities' income and the number and characteristics of the student population. It is then interesting to examine the historical articulation between funding and access policies that could explain the long-term evolution of quantitative and qualitative developments of higher education.

Regimes of HE: the historical articulation between funding and access policies

The following focuses on the UK experience and provides a long-term description of the evolutions of expenditure per student by revealing different historical sequences of articulations between the funding and access policies.

Figures 3 and 9 clearly show different upward and downward phases of expenditure per student, suggesting the alternations of different regimes of higher education. The notion of a regime of higher education seeks to characterise the articulations between the internal development of universities (funding, access, staff, quality) and their external socio-environments (economic fluctuations and social changes). The following seeks to identify these regimes and to examine the factors behind the transition from one to another in order to place the current situation in perspective.

Figure 9. **University expenditure GBP 1990, United Kingdom, 1921-2003**
(Second-order deviation from the regression curve
and nine-year moving averages (MA)), $R^2 = 0.953$ and 0.78



Source: Carpentier (2004c).

1921-1932, rise of spending per student: more resources for a limited enrolment

The creation of the University Grants Committee in 1919 symbolised the growing involvement of the state (Shinn, 1980; Shattock, 1994) in a context where public expenditure increased from 5% to 10% of GDP. Education's share of all public expenditure grew from 6% to 10%. However, the share of public expenditure on education devoted towards higher education remains stable at around 2%. The structure of university income did not change as increasing private and public resources equally drove the rise in funding. University expenditure was multiplied by 3.5. Enrolment was growing at a slower pace than funding, which explains the doubling of expenditure per student over the period.

1933-1944, decrease of spending per student: the stagnation

The Great Depression led to the decrease of non-military public expenditure as a share of GDP. Such movement particularly targeted public expenditure on education which stagnated from 1932 and decreased during the war (Carpentier, 2003). The slower growth of university funding was the result of a brake upon both public and private resources (Figure 5).

Both expenditure and enrolment stagnated and decreased during the war. It is worth noting that reductions in the former preceded the latter. The stagnation of expenditure combined with a moderate growth of enrolment explains the decrease of expenditure per student.

1945-1972, the Robbins era or the golden age

The golden era of British universities is traditionally associated with the Robbins Report (1963) that Lowe considers as the first attempt to co-ordinate the development of a system of HE in modern Britain (2000, p. 83). Nevertheless, the rise of enrolment started earlier. Enrolment rose threefold until 1967 and its share of the 18-30-year-old age group rose from 2% to 6% (Figure 2). One important aspect of this period was that increases in funding preceded the growth of enrolment. This was part of a context where public expenditure on education's share of GDP rose from 2% to 6%. Higher education's share of public expenditure on education increased from 3% to 12%. While public involvement became orientated to all universities (Salter and Tapper, 1994), the share of university income from public funding grew from 50% to 90%. Increases in funding were greater than the growth of enrolment, thus explaining the considerable rise in expenditure per student. Increased public funding promoted enlarged access, by the removal or reduction of fees, and sustained a qualitative development as shown by the decrease in the numbers of students per staff. Students of 1973, as compared with their counterparts in the 1950s,

were increasingly female (from 22% to 30%), studying on a full-time basis (from 72% to 90%) and participating at postgraduate level (from 6% to 24%) (Carpentier, 2004c).

Quantitative and qualitative indicators suggest that this phase was really the golden age for higher education when funding improved access without harming quality.

1973 to 1980, between cuts in spending and democratisation

The 1973 oil crisis opened a new era which marked a decline in public funding of the educational system (Carpentier, 2003). For universities, reductions began in 1967 in a context of declining capital expenditure on new universities which indicated the end of the Robbins era. The major slowdown, however, took place in the aftermath of the 1973 economic crisis. Reductions in public funding were not compensated for by increased private resources (Figure 5). Therefore, the overall level of university income dropped.

The conjunction of high enrolment and a reduction in overall resources led to a 25% decrease of expenditure per student from 1967 to 1980. This period demonstrates a mismatch between funding and access policies that is also observed in France where funding per student dropped by 20%.

1980-1990, the illusory expansion of funding per student

The moderate increase of funding per student during this period was caused by a slowdown in the growth in student numbers combined with a modest increase in funding. The number of new students was stable while the number of students from abroad increased. Full-cost fees for overseas students were introduced in 1980 as one of the first pieces of evidence of the Thatcher approach to higher education. Reductions in public funding, coupled with a rise from private sources (fees and private research) produced a dramatic shift in the public/private income structure (from 86%/14% to 56%/44%).

Access grew slowly and reductions in staffing led to a rise in the student/staff ratio (Figure 8). Staff wages as a share of expenditure fell from 55% to 48% (Carpentier, 2001). The increasing expenditure per student was not the result of higher enrolment connected to even greater rise of funding like it was the case during the Robbins era but was on the contrary the combination of a slower growth of access and a policy of public austerity for which the rise of private funding did not fully compensate.

1990s, the growing disconnection between funding and access

A decline in public funding coupled with an increase in private resources produced a modest rise of total income but the explosion of enrolment led to a dramatic setback in spending per student. The important result is that the

downward trend took place as early as 1990 when subsidies were replaced by loans and before the 1992 act. The polytechnics, whose expenditure per student was lower than pre-1992 universities, deepened the lack of resources per student of the HE system as a whole but did not provoke it. Moreover public grant constitutes 35% of income of traditional universities against 55% for new universities (Webber, 2003). As a result, trends towards more private funding slowed down in 1993 before rising again in 1995. Thus integration into the university sector increased polytechnics' reliance on private income.

1999-?, the stabilisation

In 1999, a brake was applied to the decrease of expenditure per student which began in the 1980s. This new regime of growth is based upon an increase of both public and private resources (the increase of public funding was combined with the increase of fees in 1998 and the rise of private funding for research). Increasing income contrasts with the previous period but does not compensate for the rapid growth of student numbers. The expenditure per student is then stabilised. The White Paper proposed to increase the level of income of universities and to change the structure of funding.

There are still uncertainties about how these reforms will affect the relationship between participation and resources in higher education. The new fee regime may produce changes not only in the level and structure of funding but also in the number and characteristics of students. The trajectories of these indicators will determine whether the 2004 HE act will be viewed as a transition towards a new regime of higher education involving a balanced between funding and access policies or as an instrument to control public funding by returning to a past elitist regime of higher education.

Conclusion

The historical perspective provides evidence on some recurrent mechanisms of articulation between funding and access in HE that can illustrate the successive and interrelated changes that led to the current situation:

- The long-term expansion of universities' resources in the United Kingdom and France was not linear and a consistent link was found with 50-year Kondratiev economic cycles. Post-war growth, ended by the oil crisis of 1973, corresponded with acceleration and, later, a slowdown of funding.
- Economic cycles provoked not only changes in the level of expenditure of UK universities but also dramatic shifts in their income structure. Public funding was the driving force for university income until the mid 1970s. Private funding (including fees) periodically increased in order to replace diminishing public funding, rather than taking the form of additional resources. In consequence, private funds hardly provided an overall rise in the income of universities.

- The considerable fluctuations of structure and levels of funding, combined with a more consistent growth of enrolment, led to a recurrent mismatch between resources for and access to higher education, explaining the wide fluctuations of expenditure per student in the United Kingdom over the period and the current underfunding issue.

The passage from one regime of higher education to another can be connected with economic fluctuations, social changes and demography articulated around crucial turning points and different temporalities (1945, the beginning of massive public funding; 1960s, the expansion of enrolment; 1970s, the control of public expenditure; 1980s, the beginning of private expenditure expansion).

The combinations of those factors led to a reversal of the link between funding and access policies in the early 1980s. Figure 9 shows that the fluctuations of resources and resources per student diverge around that time suggesting that:

- Until 1980, access and funding fluctuate in the same direction, the latter driving the former. The UK experience shows that fees can harm access and highlights the crucial role of financial aid to students as a variable of correction.
- After 1980, changes in the level and structure of universities' income are still linked with economic cycles' impact on public expenditure while access fluctuations progressively become less dependent on economic movements. The rise of participation, which was originally driven by the support of public resources, increasingly responds to political, social and cultural factors. As a result, the students' characteristics and their mode and level of enrolment tend to become variables of adjustment to fluctuations in funding.

With respect to policymaking, such historical trends question whether, in the future, increased fees will be a substitute for public spending. Or will higher fees be combined with even greater increases in public funding as part of a national project to support HE students from all social backgrounds and to boost expenditure per student?

This article did not deal with another important issue raised by the 2004 HE Act which relates to the potential effects of the introduction of the variable fees upon higher education institutions. Supporters of the Act have considered the introduction of variable fees as an opportunity to increase diversity and promote efficiency in English higher education, while its opponents see it as a potential source of tension and inequality between institutions. Current data highlight significant discrepancies between the patterns of development and funding of UK universities (or groups of universities). Research also shows that the expansion of higher education combines with growing differences in

students' profiles between institutions (Reay et al., 2005). Those discrepancies also exist in France where there is a strong hierarchy within universities and between universities, *Grandes écoles* and *Instituts universitaires de technologie* (Bourdieu and Passeron, 1964; Bourdieu, 1989). A recent study investigated the different strategies that individual universities may develop in order to adapt to the new environment brought by the reform (Temple, Shattock and Farnham, 2005). Such prospective research could be complemented by a historical and quantitative investigation into how past reforms of funding and access impacted on the different kind of institutions that shaped the HE system over the last century.

The Author:
 Dr. Vincent Carpentier
 Institute of Education
 University of London
 20 Bedford Way
 London WC1H 0AL
 United Kingdom
 E-mail: v.carpentier@ioe.ac.uk

References

- Aghion, P. and E. Cohen (2004), *Éducation et croissance : rapport pour le Conseil d'analyse économique*, La Documentation française, Paris.
- Ainley, P. (2005), *For Free Universities*, Inaugural Lecture, University of Greenwich, 19 January.
- Aldrich, R. (1996), *Education for the Nation*, Cassell, London.
- Anderson, R.D. (1992), *Universities and Elites in Britain Since 1800*, Macmillan, Basingtoke.
- Barr, N. (1993), "Alternative Funding Resources for Higher Education", *Economic Journal*, Vol. 103, pp. 718-728.
- Barr, N. (2003a), *Financing Higher Education: Comparing the Options*, LSE Working Paper Series, June.
- Barr, N. (2003b), "Financing Higher Education: Lessons from the UK Debate", *The Political Quarterly*, Vol. 74, No. 3, pp. 371-381.
- Becker, G.S. (1962), "Investment in Human Capital: A Theoretical Analysis", *The Journal of Political Economy*, Vol. 7, No. 5, pp. 9-49.
- Belloc, B. (2003), "Incentives and Accountability Instruments of Change", *Higher Education Management and Policy*, Vol. 15, No. 1, pp. 23-40.
- Blundell, R., L. Dearden, A. Goodman and H. Reed (2000), "The Returns to Higher Education in Britain: Evidence from a British Cohort", *Economic Journal*, Vol. 110, pp. F82-F99.
- Bourdieu, P. and J.C. Passeron (1964), *Les héritiers, les étudiants et la culture*, Éditions de Minuit, Paris.

- Bourdieu, P. (1989), *Noblesse d'État : Grandes écoles et esprit de corps*, Éditions de Minuit, Paris.
- Briggs, A. (1969), "Development of Higher Education in the United Kingdom: Nineteenth and Twentieth Centuries", in: NIBLET, W. R. (ed.), *Higher Education: Demand and Response*, Routledge, London, pp. 95-116.
- Brown, R. (2004), "The Future Structure of the Sector: What Price Diversity?", *Perspectives*, Vol. 8, No. 4, pp. 93-99.
- Callender, C. (2003), "Student Debt: The Impact on Participation in Higher Education", *Universities UK Seminar on Student Debt*, 5 February, London.
- Camdessus, M. (2004), *Le sursaut : vers une nouvelle croissance pour la France : rapport pour le ministère de l'Économie, des Finances et de l'Industrie*, La Documentation française, Paris.
- Campbell, C., V. Carpentier and G. Whitty (2003), "Educational Financing and Improvement: Conceptual Issues and Policy Debates in the UK", *Revue Suisse des Sciences de l'Éducation*, Vol. 3, pp. 455-477.
- Carpentier, V. (2001), *Système éducatif et performances économiques au Royaume-Uni : XIX^e et XX^e siècles*, L'Harmattan, Paris, 2001.
- Carpentier, V. (2003), "Public Expenditure on Education and Economic Growth in the UK, 1833-2000", *History of Education*, Vol. 32, No. 1, pp. 1-15.
- Carpentier, V. (2004a), "An Elitist's Manifesto", *Times Higher Education Supplement*, 17 September.
- Carpentier, V. (2004b), "Higher Education and the UK Socio-Economic System", ESRC Research Report, RES-000-22-0296.
- Carpentier, V. (2004c), *Historical Statistics on the Funding and Development of the UK University System, 1920-2002*, UK Data Archive, www.data-archive.ac.uk.
- Carry, A. (1999), "Le compte satellite rétrospectif de l'éducation en France 1820-1996", *Économies et Sociétés, Série AF, Histoire quantitative de l'économie française*, Vol. 25, pp. 1-281.
- Charle, C. (1995), *La République des Universitaires 1870-1940*, Éditions du Seuil, Paris.
- Chevallier, T. and J.C. Eicher (2002), "Rethinking the Financing of Post Compulsory Education", *Higher Education in Europe*, Vol. 27, No. 1-2, pp. 69-88.
- Crook, D. and G. McCulloch (2002), "Comparative Approaches to the History of Education", *History of Education*, Vol. 31, No. 5, pp. 397-401.
- Dearden, L., E. Fitzimons, A. Goodman and G. Kaplan (2005), *Higher Education Funding Policy: Who Wins and Who Loses?*, IFS Commentaries.
- Dearing, R. (1997), *The National Committee of Inquiry into Higher Education: Higher Education in the Learning Society*, H.M.S.O.
- Deer, C. and J.L. De Meulemeester (2004), "The Political Economy of Educational Reform in France and Britain: 1980-2000", *Compare*, Vol. 34, No. 1, pp. 33-51.
- Deer, C. (2005), "Higher Education Access and Expansion: the French Experience", *Higher Education Quarterly*, Vol. 59, No. 3, pp. 230-241.
- De Meulemeester, J.L. (2003), "Convergence of Higher Education Systems in Europe: the English and French Examples", *European Educational Research Journal*, Vol. 4, No. 2, pp. 628-647.

- Demichel, F. (2000), "Governance in Higher Education: the Viewpoint of France", *Higher Education Management*, Vol. 12, No. 2, pp. 7-15.
- DEP (1984-2003), *Repères et références statistiques sur les enseignements, la formation et la recherche*, Direction de l'évaluation et de la prospective, ministère de l'Éducation, Paris.
- DfES (2003), *The Future of Higher Education*, White Paper, Department for Education and Skills, January.
- DSG (1920-1945), *Annuaire statistique de la France*, Direction de la Statistique Générale, Paris.
- Dyhouse, C. (2005), "Women in Universities: An Historical Perspective", ESRC Research Report (RES-000-22-0139).
- Fontvieille, L. (1990), "Education, Growth and Long Cycles", in: Tortella, G. (ed.) *Education and Economic Development since the Industrial Revolution*, Generalitat, Valencia, pp. 317-335.
- Gary-Bobo, R. and A. Trannoy (2005), "Faut-il augmenter les droits d'inscriptions", *Revue Française d'économie*, 19(3), pp. 189-237.
- Goodman, J. and J. Martin (2004), "Editorial: History of Education-Defining a Field", *History of Education*, Vol. 33, No. 1, pp. 1-10.
- Halsey, A. H. and J. Webb (2000), *Twentieth Century: British Social Trends*, Macmillan Press Ltd, London.
- Herbillon, M. (2004), *Rapport d'information déposé par la délégation de l'Assemblée Nationale pour l'Union européenne sur l'enseignement supérieur en Europe*, Assemblée Nationale No. 1927, 17 November.
- INSEE (1946-2003), *Annuaire statistique de la France*, Institut National de la Statistique et des Études Économiques, Paris.
- Johnstone, B. (2004), "The Economics and Politics of Cost Sharing in Higher Education: Comparative Perspectives", *Economics of Education Review*, Vol. 23, No. 4, pp. 403-410.
- Kaiser, F. (2001), *Higher Education in France: Country Report*, CHEPS Higher Education Monitor, Enschede.
- Lorenzi, J. and J.J. Payan (2003), *L'Université maltraitée*, Plon, Paris.
- Louca, F. and J. Reijnders (1999), *The Foundations of Long Wave Theory*, Edward Elgar Publishing, Cheltenham.
- Lowe, R. (2002), "Higher Education", in: Aldrich, R. (ed.) *A Century of Education*, RoutledgeFalmer, London, pp. 75-92.
- Mace, J. (2001), "Top-Up Fees: Theoretical and Policy Issues", *Higher Education Review*, Vol. 34, No. 1, pp. 3-19.
- Maddison, A. (2000), *The World Economy: A Millennial Perspective*, OECD, Paris.
- Marczewski, J. (1961), "Histoire quantitative, buts et méthodes", *Cahiers de l'Institut de Sciences Économiques Appliquées*, Série A.F., Vol. 115, No. 1, pp. 3-54.
- Michel, S. (1999), *Éducation et croissance économique en longue période*, L'Harmattan, Paris.
- Mignot-Gerard, S. (2003), "Who are the Actors in the Government of French Universities? The Paradoxical Victory of Deliberative Leadership", *Higher Education*, Vol. 45 (1), pp. 71-89.

- Minot, J. (1984), *Les universités : après la loi sur l'enseignement supérieur du 26 janvier 1984*, Berger-Levrault, Paris.
- Musselin, C. (2004), *The Long March of French Universities*, RoutledgeFarmer, London.
- OECD (2004), *On the Edge: Securing a Sustainable Future for Higher Education – Report of the Project on Financial Management and Governance of Higher Education*, Organisation for Economic Co-Operation and Development, Paris.
- Plassard, J. M. and F. Berges (1998), *Financement de l'enseignement supérieur et redistribution*, Rapport pour la Direction de la Programmation et du Développement, Éducation Nationale, Paris.
- Ramsden, B. (2003), *Review of the Initial Entry Rate into Higher Education*, National Statistics Quality Review Series, Department for Education and Skills.
- Reay, D., M. David and S. Ball (2005), *Degrees of Choice: Class, Race, Gender and Higher Education*, Trentham Books, Stoke-on-Trent.
- Richardson, W. (1999), "Historians and Educationists: The History of Education as a Field of Study in Post-War England Part II: 1972-96", *History of Education*, Vol. 28, No. 2, pp. 109-141.
- Robbins, L. (1963), *Higher Education, Report and Appendices*, H.M.S.O., London.
- Salter, B. and T. Tapper (1994), *The State and Higher Education*, Woburn Press, London.
- Sanderson, M. (1972), *The Universities and British Industry 1850-1970*, Routledge and Kegan Paul, London.
- Sanderson, M. (2005), *The History of Education and Economic History*, ESRC Seminar Series: Social Change in the History of Education, University of Exeter, 4 March.
- Schultz, T.W. (1961), "Investment in Human Capital", *The American Economic Review*, Vol. 51, No. 1, pp. 1-17.
- Shattock, M. (1994), *The UGC and the Management of British Universities*, Society for Research into Higher Education, Guildford.
- Shinn, C.H. (1980), "The Beginnings of the University Grants Committee", *History of Education*, Vol. 9, No. 3, pp. 233-243.
- Simon, B. (1989), "The History of Education", in: Gordon, P. and R. Szepter (eds.) *History of Education: the Making of a Discipline*, Economica, Paris, pp. 55-72.
- Temple, P., J. Farrant and M. Shattock (2005), *New Variable Fee Arrangements: Baseline Institutional Case Studies for the Independent Commission*, Research Report for Department for Education and Skills, London.
- Vallin, J. and F. Mesle (2001), *Tables de mortalité françaises pour les XIX^e et XX^e siècles et projections pour le XXI^e siècle*, INED, Paris.
- Verger, J. (1984), *Histoires des universités en France*, Bibliothèque Historique Privat, Toulouse.
- Webber, G. (2003), "Funding in UK Universities: Living at the Edge", *Perspectives*, Vol. 7, No. 4, pp. 93-97.
- Williams, G. (1992), *Changing Patterns of Finance in Higher Education*, The Society for Research into Higher Education and Open University Press, London.
- Wolf, A. (2002), *Does Education Matter? Myths about Education and Economic Growth*, Penguin Books, London.



From:
Higher Education Management and Policy

Access the journal at:

<https://doi.org/10.1787/17269822>

Please cite this article as:

Carpentier, Vincent (2006), "Funding in Higher Education and Economic Growth in France and the United Kingdom, 1921-2003", *Higher Education Management and Policy*, Vol. 18/3.

DOI: <https://doi.org/10.1787/hemp-v18-art16-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.