

This is the peer reviewed version of the following article:

Expansion of higher education and inequality of opportunities: a cross-national analysis / Liu, Ye; Green, Andy; Pensiero, Nicola. - In: JOURNAL OF HIGHER EDUCATION POLICY AND MANAGEMENT. - ISSN 1360-080X. - 38:3(2016), pp. 242-263. [10.1080/1360080x.2016.1174407]

*Terms of use:*

The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

25/04/2026 14:28

(Article begins on next page)

Liu, Y., Green, A. and Pensiero, N. (2016 forthcoming) 'Expansion of Higher Education and Inequality of Opportunities: A cross-national Analysis'. *Journal of Higher Education Policy and Management*, (3).

## **Expansion of Higher Education and Inequality of Opportunities: A cross-national Analysis**

**Ye Liu<sup>a</sup>, Andy Green<sup>b</sup>, and Nicola Pensiero<sup>c\*</sup>**

<sup>a</sup> Institute for Education, Bath Spa University, UK; <sup>b</sup> Department of Education, Practice and Society, UCL Institute of Education, UK; <sup>c</sup> Department of Education, Practice and Society, UCL Institute of Education, UK

### **Abstract**

This study extends the comparative model of country groups to analyse the cross-national trends in the higher education expansion and opportunities. We use descriptive data on characteristics and outcomes of HE systems in different countries groups, including the liberal market countries, the social democratic countries, the Mediterranean countries, the German speaking countries, the Northern states and the East Asian societies. At the theoretical level, we assess the validity of the Maximally Maintained Theory in the cross-national contexts. We confirm the MMI theory in general patterns of the expansion of higher education opportunities; however, we argue that it is not sufficient to provide accounts on specific country differences in the strength of the relationship between participation rates and inequality of opportunities. Therefore, we explain the divergences from the general pattern of higher participation being associated with lower inequality. We propose three main contenders including the private contribution to higher education (the liberal countries), less hierarchical HE systems, and the participation in the dual HE system and greater public support and entitlements (the Nordic and German speaking countries). We use a series of indicators on the trends of participation in HE and different types of universities, the private contribution to HE, and the trends of public support and entitlements to assess the three contenders. Thus, we argue that there are different patterns of the trade-offs between expansion and equalising opportunities. Most rapid expansion in countries with high private contributions to HE and little government support for students mainly because governments can then afford more places but equalisation of opportunities from the expansion in these systems is limited because of financial barriers to access to less well-off groups. Most egalitarian systems seem to have somewhat lower participation rates with lower fees and strong government support such as the Social Democratic and the German Speaking countries.

**Keywords:** Higher education expansion, Maximally Maintained Inequality, Dual system, opportunity patterns, country groups

---

\*Corresponding author. Email: n.pensiero@ioe.ac.uk

## **Introduction**

Higher education expansion has enduring public and private benefits in developing and developed countries. In particular, the competition between countries in the era of the knowledge economy became the driving force in expanding the higher education system since the 1980s, such that many countries now have mass higher education systems (Marginson, 2015). This phenomenon is widely believed to benefit national economies at a time when technological innovation and increased global economic competition demand countries to shift their production and services increasingly to the high-value, high skilled knowledge-based sectors to maintain competitiveness and living standards (Brown et al., 2001). The public, non-market benefits of higher education are also believed to be considerable in terms of enhancing social trust, civic engagement, and tolerance (McMahon, 2010).

However, as higher education becomes massified, it becomes increasingly diversified and differentiated (Marginson, 2015). This phenomenon is partly caused by higher education seeking to respond to the more diverse needs of its broader clientele. However, it also reflects the pressures on states from national and international rankings to have elite universities that compete well internationally and the needs of governments to economize on costs by focusing their resources on their elite research institutions while economizing on the provisions for primarily teaching institutions. The results in many countries seem to show that university types are becoming more disparate, and the hierarchies of institutions and subjects more pronounced. Some questions arise from the debates on the massification and diversification of higher education: how did stratified and differentiated systems affect higher education opportunities by different social groups? Was there a case of broken promises for graduates from less prestigious institutions?

Two lines of inquiry dominate this debate. One line of argument primarily focuses on the rising inequality at the wider societal or structural level and its implications on the access and outcomes of higher education. Extreme levels of inequality, such as those that now appear, not only represent a major challenge to social cohesion; they are also associated with negative social outcomes across a range of areas: from public health and well-being to social trust, political engagement, social mobility, and crime (Green & Janmatt, 2011; Green et al., 2006; Wilkinson & Pickett, 2009). Globalization and changes in the deep structures of modern capitalism may be responsible for most of the long term economic change (Piketty, 2013). This rising inequality affects the drivers and the outcomes of higher education because higher education is a key mechanism in the distribution of future life chances for new generations.

Although the expansion of higher education has been considered generally as a democratizing process that will contribute to greater equality, these claims are now contested, because some argue that differentiated mass higher education may even contribute to greater inequality (Carnoy, 2011). The greater heterogeneity in quality across institutions is already reflected in the increasing differentiation in the value of degrees from different institutions and different subjects in the labor market (Green & Zhu, 2010; Reimer et al, 2008). At the same time, graduate labor markets have become more globalized and competitive (Brown et al, 2010), raising concerns about whether the promises of graduate careers can be fulfilled (Brown et al, 2010). Many countries have experienced substantial declines in earnings in middle class jobs over several decades, and this process has been intensified since the onset of the economic crisis and the ensuing austerity measures after 2008 (Hutton, 2011).

Another line of inquiry examines the expansion of higher education and the implications on social mobility from the perspective of the Maximally Maintained Inequality (MMI) thesis. The studies follow the social origin–higher education attainment paradigm in different individual contexts (Jackson et al., 2008; Shavit et al., 2007). Shavit et al. find a generally increasing participation in higher education during the expansion of different social groups in eleven developed countries (Shavit et al., 2007). Increasing the diversification of higher education has affected choices in the fields of study of different social groups. A strong correlation between students' socioeconomic characteristics, such as socioeconomic status and parental education, and their destinations in terms of the types of universities was confirmed by Jackson et al.'s study of Western European countries (Jackson et al. 2008) as well as by Ayalon and Yogev's research on Israel (Ayalon & Yogev, 2005). The MMI theory may hold in general, but national contextual differences mean considerable variations across countries in the relationship between increased participation and reduced inequality of higher education participation. This study attempts to fill the gap in higher education research by comparing the trends of different groups of countries.

Comparative education researchers have a long tradition of identifying countries with similar and distinctive system characteristics that represent a particular type or 'model' of education. Increasingly sophisticated statistical techniques using multiple cross-sectional times series datasets are now used to explain the effects of system characteristics on learning outcomes across countries (Hanushek & Wößmann, 2010). For the most part, these techniques have not been applied to higher education. However, this study seeks to do so using primarily descriptive data on the characteristics and outcomes of higher education systems in different countries and groups of countries, including the liberal market countries (the UK, the US, Canada, Australia, and New Zealand),

the socially democratic countries (Finland, Sweden, Norway, Iceland, and Denmark), the Mediterranean countries (France, Spain, Italy, Portugal, and Greece), the German-speaking countries (Germany and Austria), the Northern states (the Netherlands and Luxembourg) and the East Asian societies (Japan and South Korea). Higher education will be defined as the International Standard Classification of Education (ISCED) level 5; and the type of higher education institutions will refer to the ISCED Level 5 A and B.

We will assess at the theoretical level the extent to which the MMI theory could explain cross-national trends in the access to higher education. We will present at the empirical level the cross-cohort changes in the inequality of opportunities and then will use the comparative data on the changes in financing and governance, which show the way that high costs and low government support mitigate the relationship between expansion and inequality reduction. We will perform these steps by examining trends across OECD countries for which we have the best data, using a variety of indicators.

### **The Maximally Maintained Inequality**

Central to the sociological debates on the implications of the expansion of educational opportunities is whether this expansion increases inequality as the privileged social groups gate-keep their advantages or reduces inequality by providing wider access for the disadvantaged groups. MMI theory was developed to analyze cross-cohort changes in the effect of socioeconomic characteristics on educational participation (Lucas, 2001). This theory outlines two prerequisites and three scenarios. The prerequisites of MMI include an increasing demographic base for education and an 'upgrading' of social class. Both conditions were illustrated in the expansion of the middleclass and the improving literacy level in most Western industrial societies since the 1960s. The three scenarios described the complicated relations between the demand for higher education among different social groups and the supply of the opportunities. The first scenario shows persistent social inequality when higher education started to expand and increase enrollment mainly because the demand for higher education increased for the middleclass or the privileged social groups but remained the same for the working class or unprivileged people. The second scenario shows declining inequality when the access to higher education became universal for privileged social groups, and the demand for higher education also increased for the underprivileged class. The last scenario shows an increasing social inequality when sociopolitical circumstances changed and public support for the expansion declined. The most significant aspects of MMI are the last two scenarios. The MMI suggests that the effect of social class on educational attainment should decline after a given level of education becomes universal for the upper social class (Raftery & Hout, 1993). When they have reached a threshold, the expansion of educational opportunities allows lower

social groups to advance. The MMI theory argues that socioeconomic characteristics affect educational attainment at the higher educational level more significantly than at the basic level because this level is where the ceiling is reached. However, this argument raises the question of the threshold or the saturation point of universal access.

Some studies test the validity of the MMI theory in the context of the expansion of higher education opportunities (Raftery and Hout, 1993; Chesters and Watson, 2013; Benito and Alegre, 2012; Paterson and Iannelli, 2007), and some calculate the threshold, after which social inequality decreases, for example, in the comparative study on stratification in higher education by Shavit et al. (2007). This example defines the saturation point as the level at which 'nearly all sons and daughters of advantaged origins attain' higher education (p. 3). They argue that before the saturation point, class inequality persisted or increased when higher education expanded. In their thirteen cases, 80 percent of the eligible population who had access to higher education was defined as the saturation point (Shavit et al, 2007, p. 17). The statistical results partly confirm the MMI theory as social inequality as access declined in Israel and Italy, where the saturation point of 80 percent was reached (Recchi, 2007; Shavit et al., 2007). However, the two other East Asian cases of Japan and Taiwan showed a clear decline in social inequality *before* they reached the elite saturation point (Ishida, 2007; Tsai & Shavit, 2007).

In this sense, the MMI theory works at a very general level, but it is insufficient in explaining specific country contexts particularly regarding the class structure and higher education policy. Shavit et al.'s study do not provide sufficient answers to the exceptional case of Taiwan and Japan. Inequality would decline prior to elite saturation, when the lower social groups were winning a higher share of the new places available than those won by elite family children. Under what circumstances would this case occur? If the attainment of lower social groups in a mass upper secondary education system was rising fast and the higher education entrance system was quite meritocratic (as in Japan and Taiwan), then the lower social group would compete better for places than the less able elite.

Liu's empirical research on socioeconomic participation in higher education during China's massive expansion since the 1990s extended MMI theory and addressed the contextual features of China (Liu, 2013). The empirical findings encompassed some aspects of the MMI arguments, confirming a certain degree of socioeconomic and cultural selectivity in the access to higher education. However, the most novel finding shows that geographical inequality and the higher education recruitment 'quota' policy played a more significant role of stratifying access to higher education (Liu, 2015). Moreover, Liu's separate

study also suggested that the demographic policy, namely, the 'one-child' policy, played an essential role in determining students' opportunities in elite universities (Liu, 2015). Contrary to the MMI theory, Hao et al.'s study, which is based on the data from the 2008 Chinese General Social Survey (CGSS), shows an 'accumulative penalty' effect of both rural hukou status and rural schooling on the students' chances of advancing their educational careers even the educational opportunities expand at all levels (Hao et al., 2014).

Mountford-Zimdars et al.'s research investigates access to higher education opportunities in the particular context of the changes in the policy on tuition fees and student loans in the UK in 2009 (Mountford-Zimdars et al., 2013). The 2008–2009 economic recession resulted in the austerity measure endorsed by the British coalition government since 2009. In the education policy, a significant change was the massive increase in the higher education tuition, raising the typical tuition costs from 3000 to 9000 (GBP). Mountford-Zimdars et al. analyze the patterns of public attitude and support regarding tuition, and they found that the middle class families show strong support for the fees and even differentiated fees for different fields of study, whereas working-class students were very concerned about the fees and implications on the students' debt. They used the term 'pulling up the ladder' to illustrate the way advantaged social groups used tuition to safeguard their children's higher education opportunities and further employment (Mountford-Zimdars et al., 2013).

These studies show that the MMI works in general terms, but it does not sufficiently consider specific country differences in the strength of the relationship between participation rates and inequality in higher education opportunity. This study will substantiate this gap with comparative data on changes in financing and governance showing the way high costs and low government support mitigate the relationship between expansion and inequality reduction. We will start with empirical evidence that highlights the cross-cohort changes in the inequality of opportunity in higher education qualifications.

### **Trends in the inequality of opportunity in accessing higher education**

Comparable data is often unavailable over time for many countries, so comparisons of the levels of inequality in different countries and their changing patterns over time can be difficult. A contribution that can be made here is a brief analysis of the results of a very recent survey conducted across 24 countries and regions in 2011 showing the cross-national patterns in the inequality of access to higher education and the way that these patterns are changing. We estimate changes over time based on the data of different age cohorts in a cross-sectional survey, on the assumption that most higher education qualifications are attained before the age of 25 and that cohort

qualification rates provide a good proxy for qualification rates in different periods.

The data are taken from the recent OECD Survey of Adult Skills conducted among 16–64 year olds in 2011 across 22 countries (plus two country regions). The survey contains data on the highest qualifications held by respondents and their parents' levels of education. Using a technique frequently used in higher education mobility studies, we are therefore able to compare the chances of gaining higher education among groups with parents educated at different levels. In this case, the data on respondents' parents' education are restricted to three levels, differentiating among those with graduate parents, those with a parent who achieved an upper secondary qualification, and those with a parent who achieved no higher than lower secondary qualifications. We restrict ourselves to comparing the chances of higher education graduation among respondents with graduate parents and the rest because the error terms in the data for the lowest category are often too large. Relative chances are presented in terms of odds ratios showing the ratio of the probabilities of each group of acquiring a higher education qualification. Thus, if the probability of children with graduate parents obtaining a higher education degree is 80 percent and that of children of non-graduate parents obtaining a higher education degree is 40 percent, then the relative odds for the two groups (or odds ratio) is 2. Chart 1 shows by country and age cohort the relative chances of children of graduate and non-graduate parents of obtaining a higher education qualification at level ISCED 5 (A or B) or higher. Chart 2 focuses on the 25–34 year olds in SAS and plots the attainment rate of higher education qualifications (which proxies for participation rates) against the social gaps in achievement (using odds ratios again) for the range of countries.

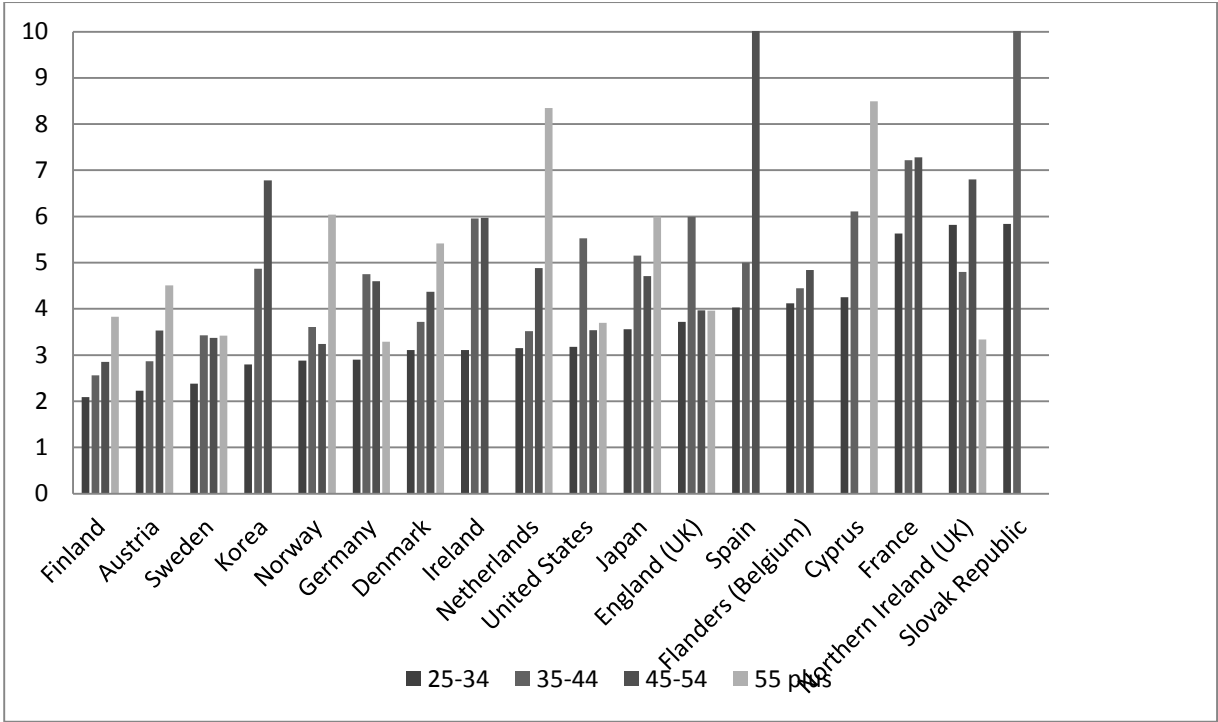


Chart 1. Probability of gaining HE degree of children of graduate parents compared with those of non-graduate parents (odds ratios) by age cohort. Source: Survey of Adult Skills (OECD 2013b).

The first observation taken from Chart 1 shows that the advantage of children of graduate parents in obtaining higher education qualifications has declined through the generations in all countries except Northern Ireland. Given that nearly all higher education qualifications are gained between the ages of 20 and 25 years, the four cohorts proxy for graduation rates in each of the four decades from the 1970s to the 2000s, when those people aged 25–34 years in 2011 were graduating. Therefore, measured in terms of social background effects, the inequality of opportunity for higher education has been decreasing over the four decades in each country except Northern Ireland. The steepest declines have been generally found in the less developed or less affluent countries such as Cyprus, Korea, Spain, and the Slovak Republic, but the Netherlands has also shown sharp declines in inequality. By contrast, a few countries including England, Sweden, and the USA have seen only very small declines in inequality.

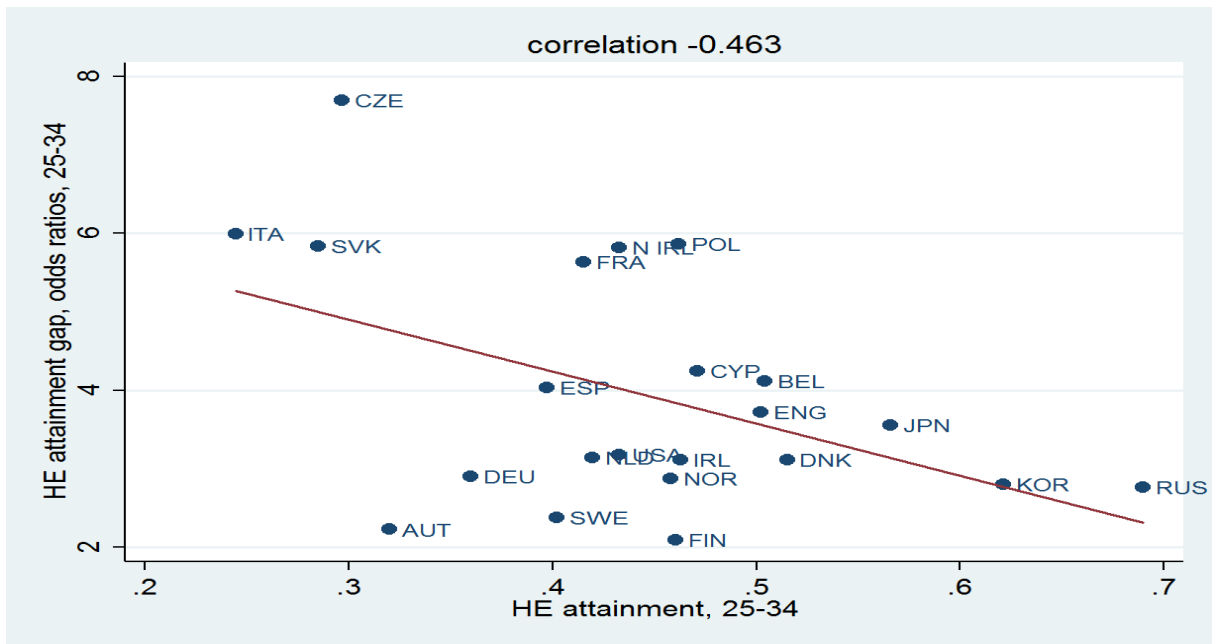


Chart 2. HE qualification rates and inequality of opportunity amongst 25-34 year olds by country.

The second observation taken from Chart 2 shows a significant relationship between the rates of qualification and the inequality of opportunity for higher education qualification. Countries with higher qualification rates (and therefore participation rates) tend to have smaller social gaps in the attainment of higher education qualification, as measured by the odds ratios. This finding suggests that as participation in higher education increases, an equalization effect occurs in terms of the chances of children from different social groups (by parental education level) of attaining higher education qualifications. However, two qualifications need to be set here. First, we are only able to differentiate between the two social groups – those with graduate parents and the rest. We do not know from this differentiation whether the relative chances of attaining higher education qualifications from those with parents in the lowest educational category are improving relative to the chances of the children with graduate parents.

The second point shows that although the relationship is significant, considerable variation exists across countries in terms of the relationship, with a number of outliers. For instance, among countries with average levels of participation and attainment, some including France, Northern Ireland, and Poland, retain wide social gaps in attainment, whereas as others such as Germany, Sweden, and Austria have relatively narrow social gaps. Therefore, the inequality of opportunity in higher education varies substantially among countries with similar participation and attainment rates.

Chart 1 shows that the inequality of opportunity for higher education qualification varies quite substantially across countries. For the youngest cohort, aged 25–34 years in 2011 and graduated in the 2000s, the inequality of opportunity is lowest in Finland, where the chances of graduating from higher education were only 2.09 times higher for the children of graduate parents than for the children of non-graduate parents. At the other end of the scale was the Slovak Republic, where children of graduate parents were 5.84 times as likely as children of non-graduate parents to obtain a higher education degree. In terms of the comparison between country groups, a few clear patterns emerge. The Nordic countries are all ranked quite low in terms of the inequality of opportunity, with Finland at the bottom and Sweden, Norway, and Denmark as third, fifth, and seventh from the bottom (out of the 18 countries and country regions shown here), respectively. The social market countries are also mostly relatively egalitarian, with Austria, Germany, and the Netherlands ranking second, sixth, and ninth from the bottom, respectively. Only Flanders among this group moves toward the more unequal end of the ranking. The two East Asian countries are rather disparate, with Korea ranking fourth from the bottom in terms of inequality and Japan in eleventh place. By contrast, the inequality of opportunity is relatively high in all of the Mediterranean countries, including Cyprus, France, and Spain. The liberal English-speaking countries are quite disparate but are in the top half in terms of level of inequality.

These two findings broadly confirm MMI theory in the comparative perspective. However, what explains the differentiated patterns across countries? The inequality of opportunity has reduced most rapidly in developing countries (Slovak R.) or recently developed countries (such as Spain, Japan and Korea) and in Nordic countries. The higher education attainment gap is lowest in the Nordic and German-speaking countries (despite lower rates of participation in the latter). Liberal countries have not improved significantly and have relatively high inequality of opportunity (despite high rates of participation). How can we explain these divergences from the general pattern of higher participation being associated with lower inequality? Three explanations derived from the findings are the main contenders. First, higher education tuition in liberal countries might reduce the tendency toward equalization from high participation. Second, less hierarchical higher education systems and the participation in Type B institutions in the Nordic and German-speaking countries might reduce inequality. Third, greater public support and entitlements might reduce the inequality of access. We will use a series of indicators to assess each contender and explore the extent to which they can explain divergent inequality patterns across different countries.

## **Trends in participation rates by country group overall and by different types**

Trends in the access to higher education can be analyzed in different ways. We use the method that considers the proportion of different birth cohorts who gain higher education qualifications and make deductions from this proportion about the trends in qualification rates over time. The data are compiled by the OECD from the labor force surveys on the highest qualifications held by adult populations in different countries. This method has the merit of including qualifications that were gained outside the country in question. We take the data for the different age groups from different survey years to establish higher education qualification rates of successive age cohorts, which typically obtained their higher education in each decade from the 1980s. The slight variation in the survey years will make little difference to the figure for the qualification gained by different cohorts because very few higher education qualifications are acquired after the age of 25.

The data will be presented on the proportion of different birth cohorts who had attained a tertiary (ISCED 5 Type A or B) qualification at the time of the survey from which the data were taken. OECD defines ISCED 5 A and B programs as long cycle programs in either general (A) or vocational areas (B), so these programs correspond to the normally referred higher education on a broad definition, which includes bachelor-style degrees normally taken for three to four years and obtained in traditional universities or polytechnic-type institutions. We use the age ranges from 18 years to 25 years and from 18 years to 23 years to estimate the output of higher education qualifications during different periods because most of the higher education graduates have obtained their undergraduate degrees between these age ranges. The birth cohorts are selected to represent higher education qualification rates in each decade from the 1980s. The age group of 35 years to 44 years in 2008 was born between 1964 and 1973 and typically started their undergraduate education between 1982 and 1991 at 18 years of age.<sup>†</sup> Their higher education qualification rates represent the output of tertiary education in the 1980s. The youngest age group aged 25 years to 34 years in 2011 was born between 1977 and 1986 and typically started undergraduate higher education between 1995 and 2004. They are the youngest birth cohort for which we have highest qualification level data from the labor force surveys. They can be used to proxy for the outputs of higher education in the period between 1995 and 2004, which is as up to date as we can get using this method.

Chart 3 provides a detailed comparison of the rates of higher education qualification of the cohort 1964–1973 and the cohort 1977–1986, representing

---

<sup>†</sup>Survey data from 2008 (OECD, 2010).

the expansion between the 1980s and 2000s by each country, organized into country clusters. The English-speaking countries had relatively high participation rates compared with most other country groups. They are now joined by the UK. However, the East Asian countries (Japan and Korea) indicated significantly higher participation rates than did other countries. By contrast, participation in some of the social market countries such as Austria and Germany was relatively low and lower than those in some Eastern European countries such as Poland and Hungary. Mediterranean countries exhibited quite differentiated patterns of participation, with Italy, Portugal, and Turkey having significantly lower qualification rates than did France, Greece, and several other smaller states in northern Europe (including Belgium, Ireland, Luxembourg, the Netherlands, and Switzerland).

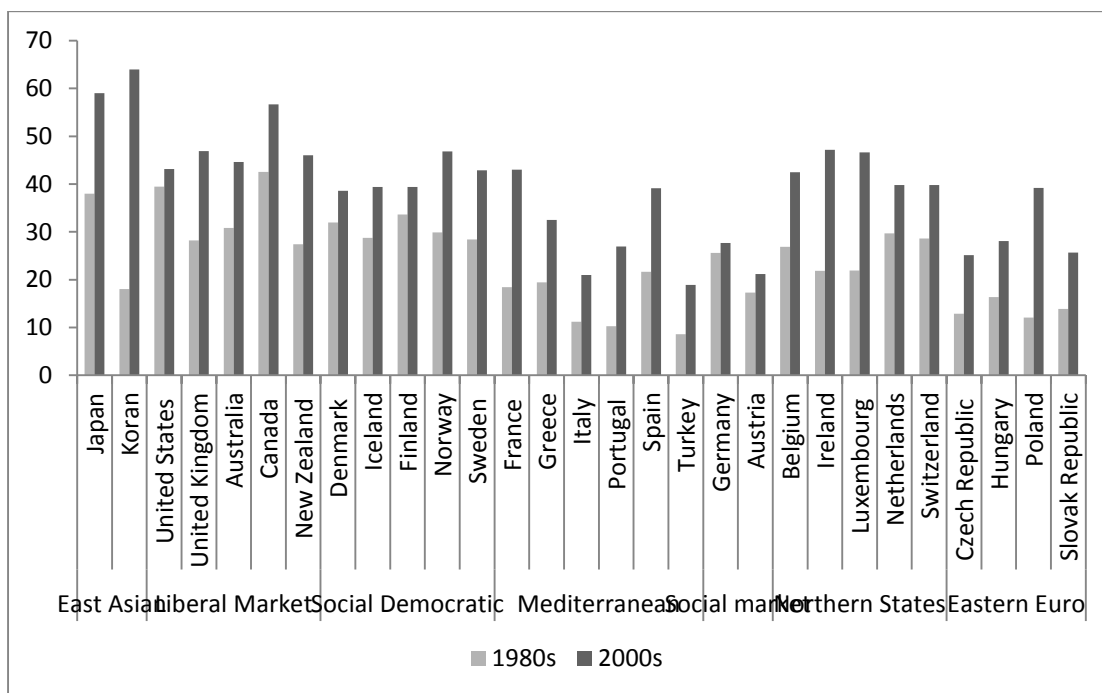


Chart 3. HE expansion between 1980s and 2000s by country.

Data source: For 2000s, data are from Education at a Glance (OECD, 2013, p.37); For 1980s, data are from Education at a Glance (OECD, 2010, p. 36).

Many countries had thus developed mass participation-higher education systems by the 2000s. More than two-thirds of the age cohort attained higher education qualifications in Japan and Korea, and nearly half of the eligible population on average had higher education qualifications in liberal market countries including Canada, Australia, the US, and the UK. In the Nordic countries, the

smaller northern European countries, France, and Spain, participation had reached around 40 percent. However, many countries were still significantly short of major Italian higher education participation and higher education qualification. Two of the social market countries, Austria and Germany, had only reached qualification rates of 21 percent and 28 percent, respectively. Greece and Portugal ranked in the middle spectrum for the Mediterranean cluster, with around 30 percent of the age cohort qualifying in higher education, but the rates were only 21 percent in Italy and 19 percent in Turkey. Among Eastern European countries, Poland achieved the highest rates (at 39 percent) by 2000s, 10 percentage points higher than its Eastern European counterparts.

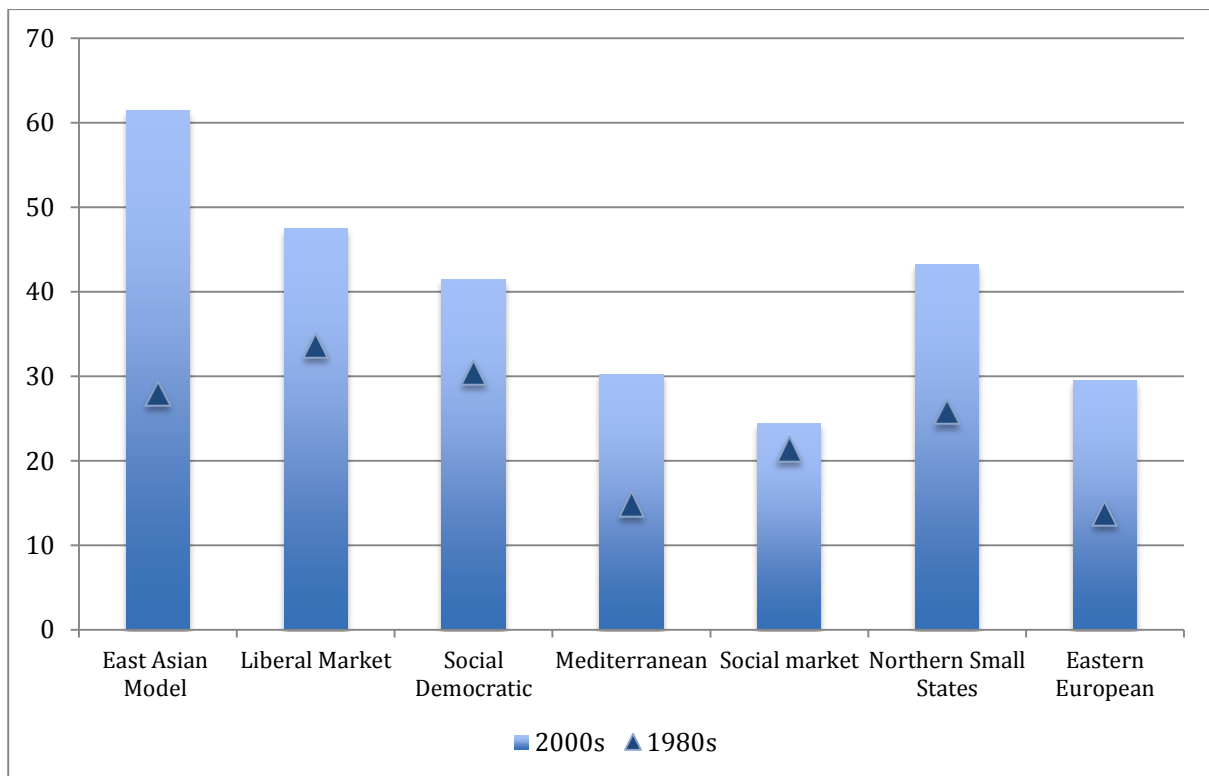


Chart 4. HE participation rates between the 1980s and 2000s by country cluster. Source: Education at a Glance (OECD, 2013, p. 37); Education At A Glance (OECD, 2010, p. 36).

The changes in the ranks of countries based on qualification rates between the 1980s and 2000s is indicative of the varying rates of higher education expansion across countries and country groups in the intervening period. Chart 4 demonstrates the changes in the participation rates in these country groups. In terms of the change in qualification rates between the 1980s and 2000s, the East Asian countries Japan and Korean experienced the most dramatic increase in higher education qualification, with an average increase in the rates of 33 percentage points, such that two-thirds of the cohorts were achieving higher

education qualifications in the 2000s compared to their relatively low participation rates in the 1980s. Small northern European small states such as the Netherlands, Luxembourg, and Switzerland also experienced relatively fast expansion with an average of 17.4 percentage point rises in higher education qualifications between the 1980s and 2000s. By contrast, social market countries including Austria and Germany had the least change, with only an average of 3 percentage point increases in qualification rates between the 1980s and 2000s. Mediterranean countries and Eastern European countries also achieved more than 15 percentage point increase in higher education recruitment, whereas an approximate 10 to 14 percentage point increase was observed in the social democratic and liberal market countries.

Charts 5 and 6 show the qualification rates in the two different types of programs for the two birth cohorts (1964–1973 and 1977–1986) who participated in tertiary education in the 1980s and from 1995 to 2005. During the period, in the East Asian countries, qualification rates from type A programs increased rapidly, whereas qualification rates from type B programs remained steady. Two trends in the liberal market countries were observed. Australia, the UK, the US, and New Zealand experienced rapid increases in qualification rates from type A programs, whereas their type B program qualification rates substantially declined. By contrast, Canada increased its type B qualification rates at the same time as when it increased its type A qualification rates. The dominant pattern of increasing type A qualification rates and diminishing type B rates in the liberal states is also found in socially democratic countries, social market countries, Eastern European countries, and Northern European small states. The main exception to this pattern was found in the East Asian states and in Southern European countries such as France, Greece, and Spain, which maintained or increased their type B qualification rates at the same time as when they increased their type A qualification rates.

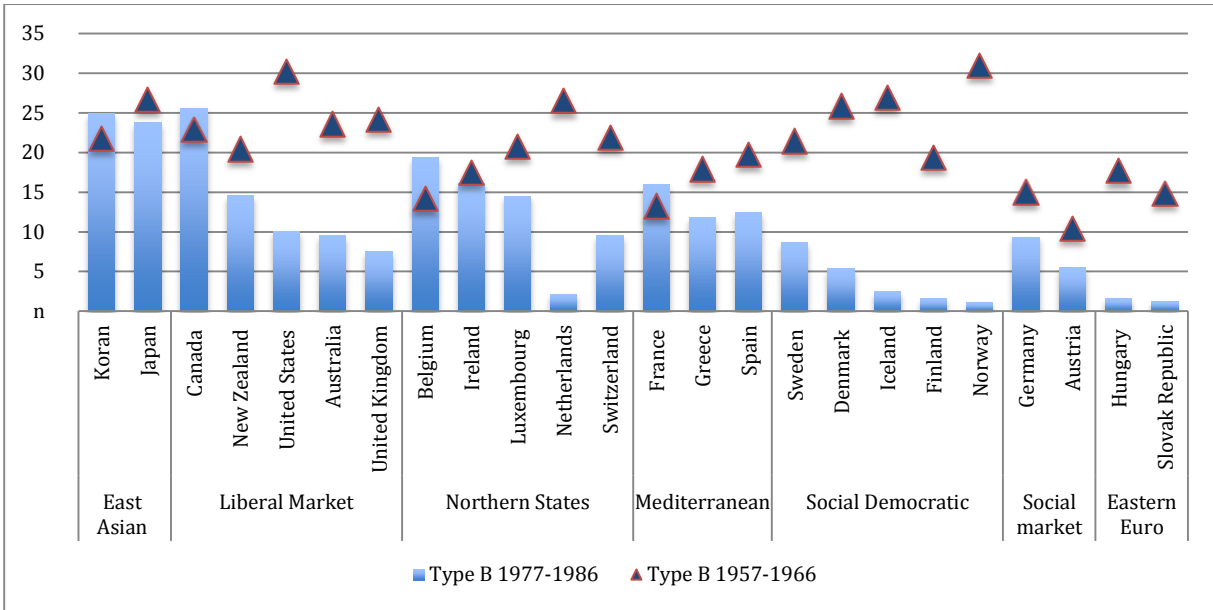


Chart 5. Participation in type-B HEIs by the age cohort 1964-1973 and 1977-1986 in country cluster.

Source: Education at a Glance (OECD, 2013, p. 37).

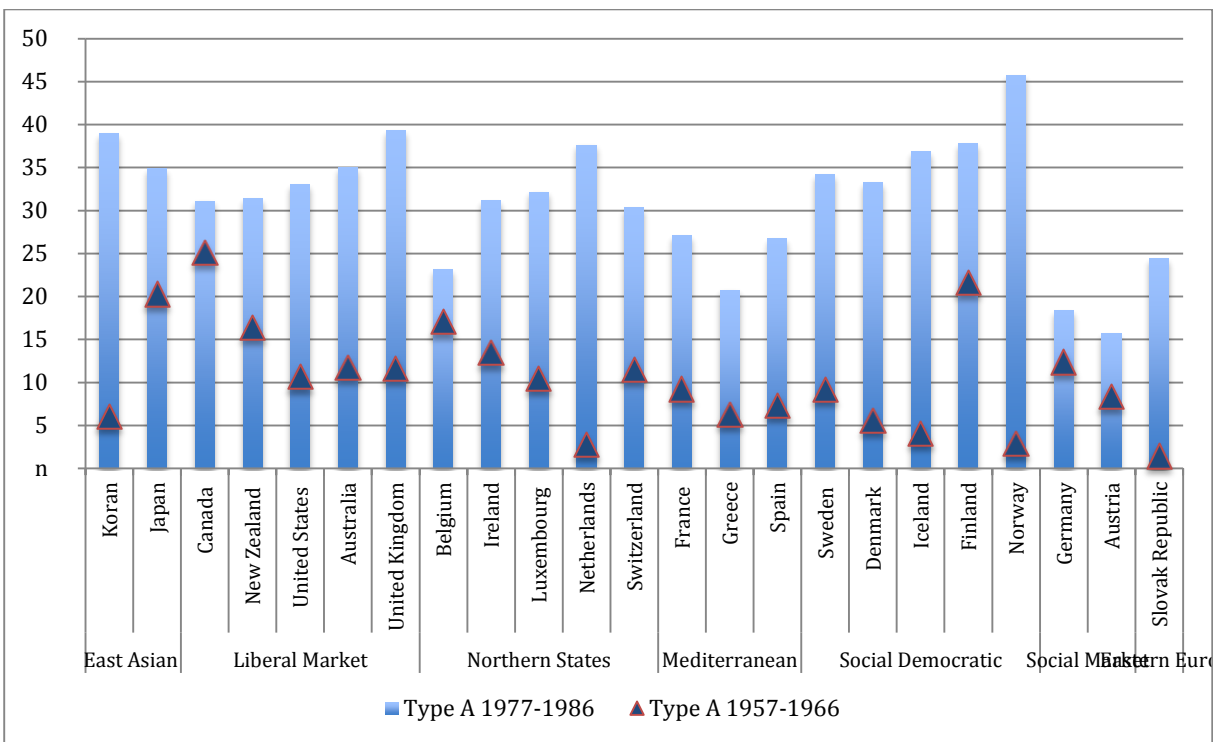


Chart 6. Participation in type-A HEIs by the age cohort 1964-1973 and 1977-1986 in country cluster.

Source: Education at a Glance (OECD, 2013, p. 37).

Chart 7 illustrates the patterns of participation in type A and type B programs in the country clusters from the 1980s to 2005. Although in general, the expansion of type A programs has been responsible for most of the increases in higher education qualification rates in almost all countries, some distinctive patterns are found within this trend. Countries with the largest overall increases in higher education qualification rates, including the East Asian countries (Korea and Japan) and some liberal market countries (Canada and New Zealand), tended to have relatively strong type B sectors and qualification rates. The countries whose higher education qualification rate increases were the least substantial among the country clusters (see Chart 4) were the socially democratic countries and the social market countries, where the type B qualification rates declined most dramatically over the observed period.

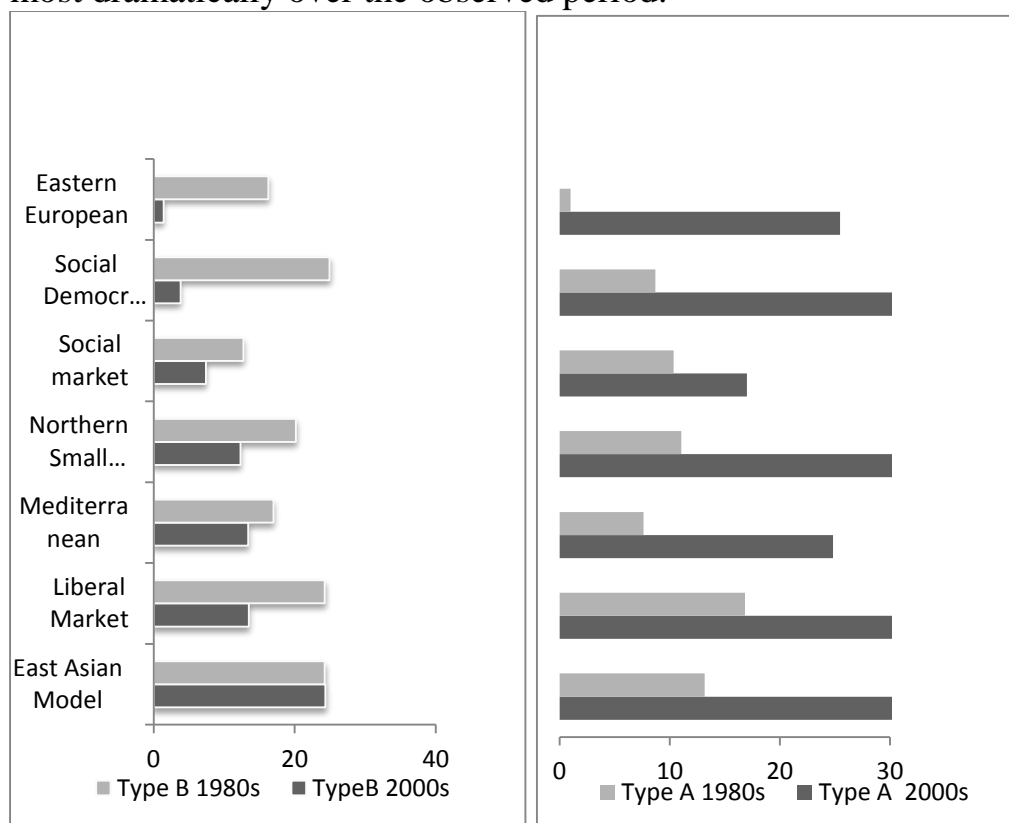


Chart 7. Participation by HEI types between 1980s and 2000s by country cluster. Source: For 1980s, Education At a Glance (OECD, 2010, p. 36). For 2000s, Education at A Glance (OECD, 2013, p. 37). The two column cohorts represent participation in two types in the 1980s and 2000s.

### Trends in the share of private contribution in higher education

This section will present evidence on the cost of higher education in the OECD countries by highlighting the proportion of private contributions from 1995 to 2010. Thereafter, we will use country cluster analysis to examine the trends of the private contribution to higher education among different countries. Chart 8 illustrates the general trend from 1995 to 2010 in the proportion of total higher education expenditure from private sources. The data clearly show increasing private contributions to higher education in most of the OECD countries between 1995 and 2010 except in the socially democratic countries including Denmark, Sweden, Norway, Finland, and Iceland. In general, continental European higher education tends to be more publicly-funded than those in East Asia, North America, Australia, and the UK. However, private contributions grew between 2003 and 2010 in most of the countries. By 2010, the OECD average privation contribution accounted for 31.63 percent of the total cost of higher education. The largest private contributions of more than 60 percent of the cost were observed in Japan, Korea, the US, and the UK.

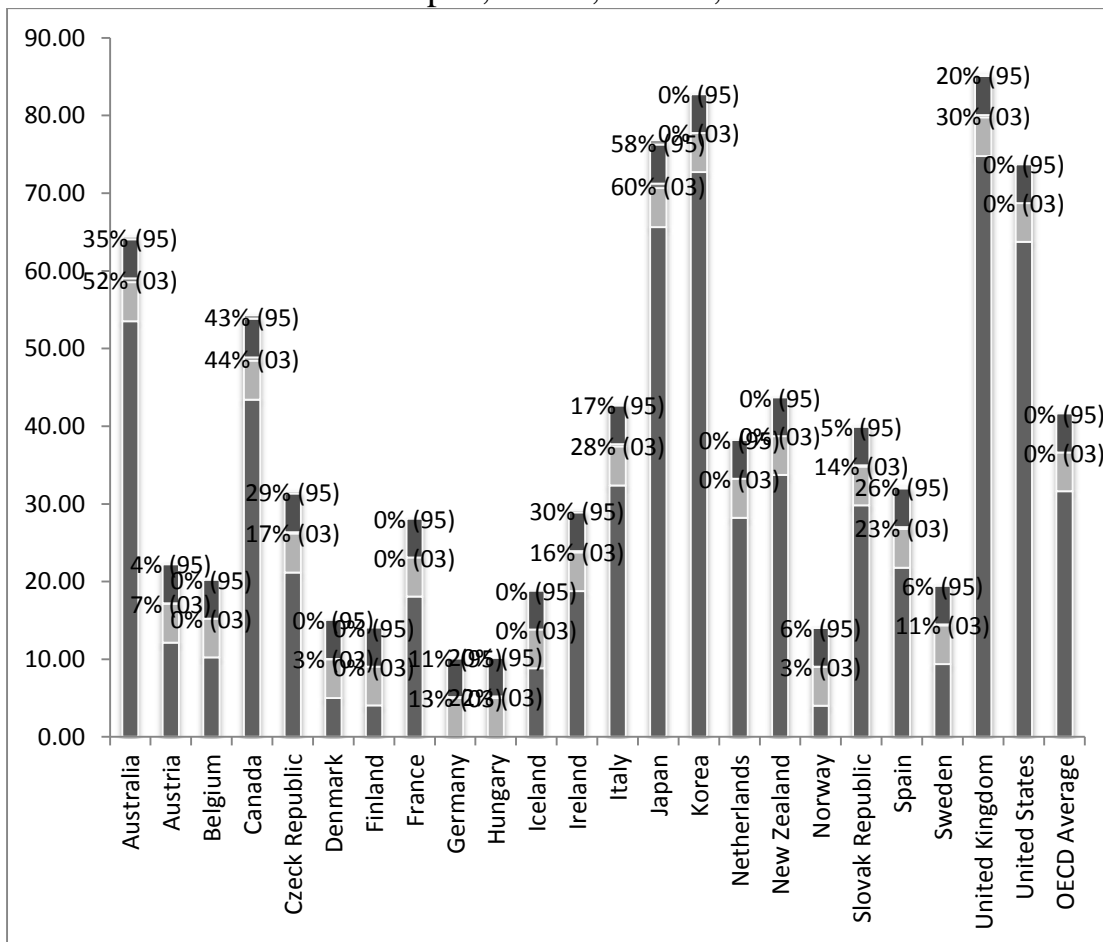


Chart 8. Proportion of the private contribution to HE in 1995, 2003 and 2010.  
Source: For 2010, data are from Education At A Glance (OECD, 2013); For 1995 and 2003, data are from Education At a Glance (OECD, 2006)  
Note: 1. The base data, which refer to the private contribution in 2010.  
2. (95) refers to the proportion of private contribution in 1995.

3. (03) refers to the proportion of private contribution in 2003.

Chart 9 provides the trends in private contributions to higher education by country cluster from 1995 to 2010. East Asian countries (Korea and Japan) and liberal market countries (Australia, Canada, the UK, the US, and New Zealand) have had a significantly higher proportion of private contributions than other country clusters. Social democratic countries including Denmark, Sweden, Finland, Norway, and Iceland still maintain state-funded higher education to a large extent, with private contributions amounting to roughly 6 percent by 2010. Among the socially democratic countries, Sweden has had slightly higher private contribution proportion than the rest of the Nordic countries. Another case of low private contribution to higher education is found in the social market countries such as Austria and Germany. The private contribution in these two countries hardly changed between 1995 and 2010, accounting for around 10 percent of the total higher education cost. Among Mediterranean countries such as France, Spain, and Italy, private contribution has not changed significantly, rising to 25 percent in 2010 from 21 percent in 1995. Eastern European countries experienced slight increases in private contributions from 18 percent in 1995 to 25 percent in 2010.

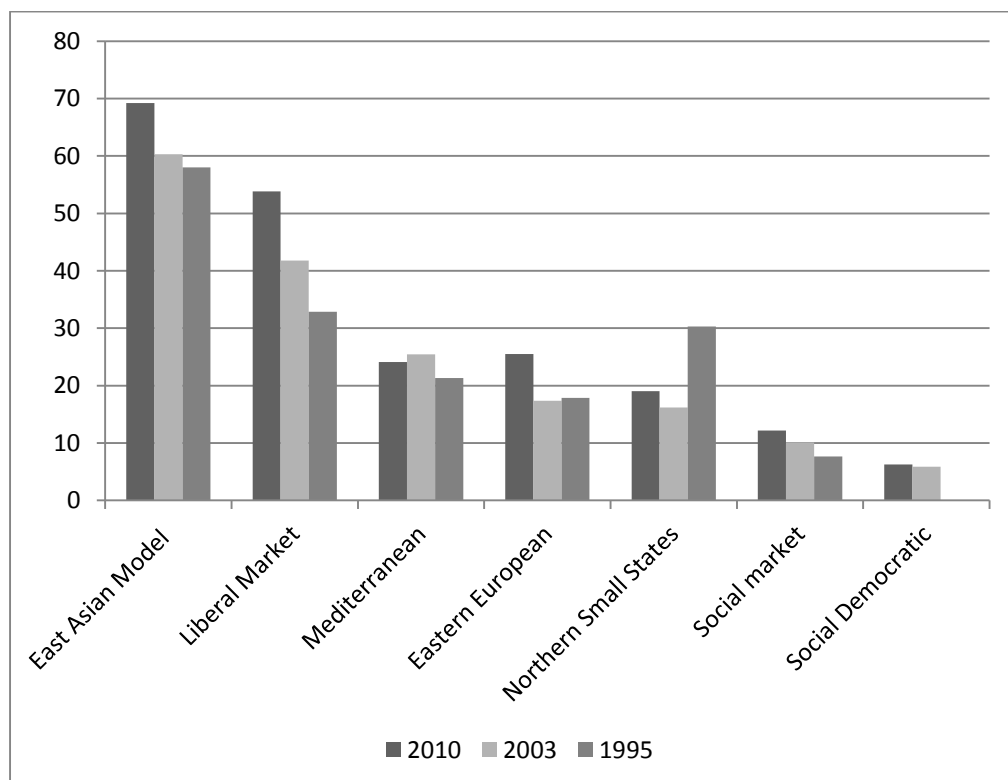


Chart 9. The trend of the private contribution to HE by country cluster from 1995 to 2010.

Source: For 2010, data are from Education At A Glance (OECD, 2013); For 1995 and 2003, data are from Education At a Glance (OECD, 2006).

Comparing Chart 9 with Chart 4 shows that countries with high proportions of private spending in education, such as East Asian countries and liberal market countries, also tend to have high higher education growth rates. By contrast, the countries that experienced the slowest growth rates in higher education also had lowest private contributions to higher education spending. This finding suggests that higher education expansion is driven more by government decisions on spending in higher education than by student demand. On the one hand, in countries where the costs of higher education enrollment to governments are higher because of low tuition, governments may have deliberately restricted their supply. On the other hand, in countries where costs are shared with students, fewer government restraints exist on numbers, and an increasing number of students willing to pay remain, at least in these more affluent OECD countries. However, student calculations of costs will also affect their choices of fields of study because these fields are often differentially priced.

### **Trends in the government support and public entitlements for higher education students**

However, access to higher education is not only affected by the cost of tuition. The availability of public support in the form of scholarships, student loans, and tax transfers also shape student decisions on participation. Chart 10 provides a snapshot in 2011 of different groups of countries in terms of the extent of public support in the form of scholarships, student loans, and other subsidies. The chart shows that social democratic countries spent the highest among country clusters on these forms of support. Given the low or zero tuition charged in these countries, the net costs to students in higher education would appear to be relatively low. By contrast, East Asian countries spent the least in funding higher education and provided very weak public support in terms of scholarships and student loans. The cost of obtaining a higher education degree in East Asian countries is relatively high because students have been contributing the majority of the tuition costs for higher education through fees. The liberal market countries including Australia, Canada, New Zealand, the US, and the UK spent relatively large amounts in supporting students in higher education. However, many of these countries such as the UK and the US use loans, which have to be paid back at some point. Therefore, although initial access may not be impeded by financial constraints despite the high level of fees, in the long term, private costs to higher education are still relatively high and involve the accumulation of sizeable amounts of debt. The remaining European countries have lower levels of public support for student participation, but the fees are very low, so the net costs of participation to individual students are significantly lower.

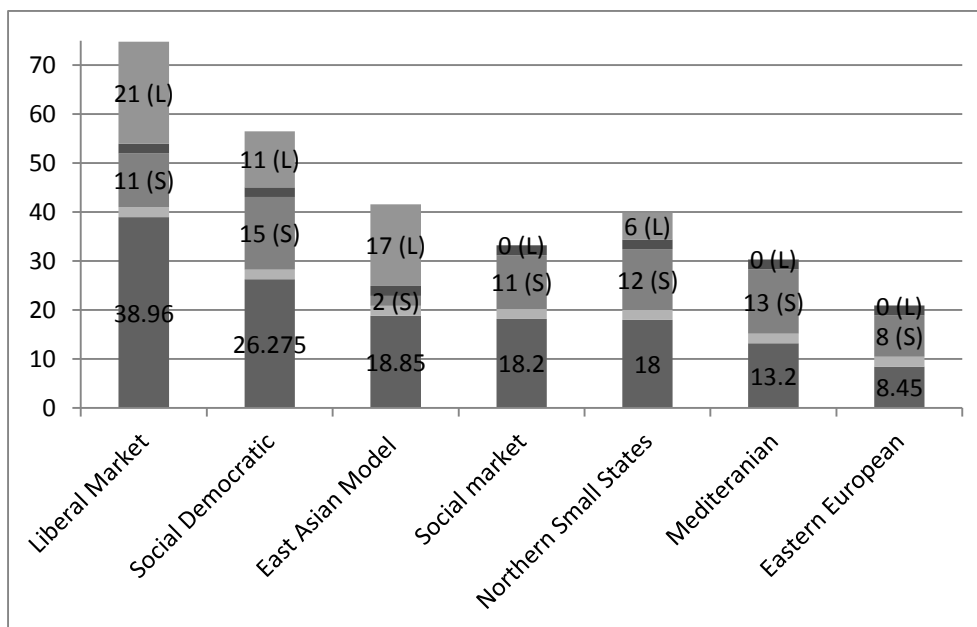


Chart 10. Availability of the public support to HE by scholarships and student loans in country cluster.

Source: Education At A Glance (OECD, 2013).

Note: 1. The base data, which refer to the direct public spending on higher education institutions and subsidies for households and private entities as percentage of the GDP, are multiplied by 100 to include the breakdown data on the public support such as scholarships/grants and public student loans.

2. L refers to the public student loans, which are in percentage of the total public support in higher education.

3. S refers to the scholarships and grants, which are in percentage of the total public support.

### Employment opportunities

This section examines the graduate employment rates because of the expansion of higher education. Data across countries demonstrate that employment rates of graduates of higher education remain relatively higher compared to those with non-tertiary qualifications. However, the financial crisis in 2008 complicated youth employment across different continents. A growing employment insecurity has been observed in the labor market. In particular, rising flexibility measures in employment have been adopted, such as temporary employment, part-time employment, and zero-hour contracts, which are regarded as a growing army of 'shadow labor' (Standing, 2011).

Mounting evidence shows that many graduates with higher education degrees are trapped in low-paid, low-skilled jobs to fulfill an employment opportunity

(Brinton, 2011; Felstead et al., 2012; Putnam, 2015; Silva, 2012). This phenomenon is coined as 'status discord' by Kosugi (2008), who analyzed youth employment in contemporary Japan. According to Kosugi (2008), the younger generation with a higher level of education and qualifications has to accept jobs with lower status and lower pay, and this young generation is most likely to suffer status frustration. This status discord can be applied to explain youth employment in different contexts. A massive production of higher education graduates resulted in the devaluation of skills. Standing describes the university tuition debt and the discord between qualifications and job status as two traps faced by young graduates of higher education (Standing, 2011).

This section will illustrate the general employment rates in the observed countries for the age cohort between 25 and 34 years. Chart 11 compares the employment rates between two cohorts – the younger 25–34 year olds and the prime cohort of 45–54 year olds between 2000 and 2011. The chart shows that the employment rates were generally higher for the prime cohort than for the young cohort across most countries under investigation. East Asian countries have the lowest employment rates compared to other countries with the highest private contribution to tuition. The low employment rates in East Asian countries can be explained by the high participation rates in higher education, which did not match the labor market's demand. Social market countries and Northern European small states have higher employment rates for university graduates.

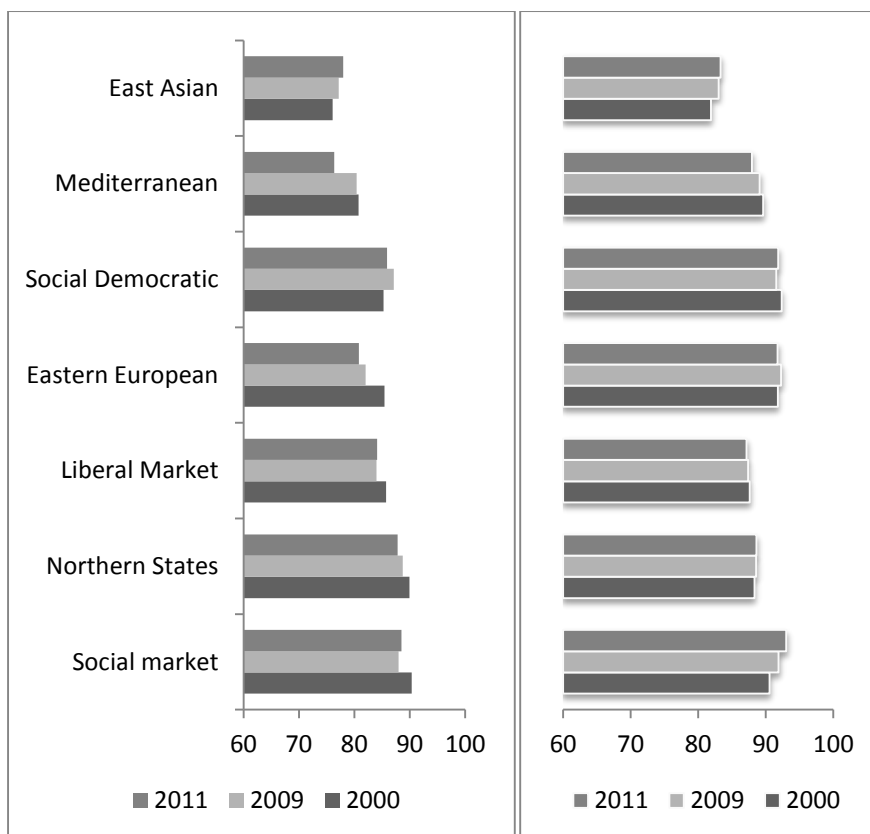


Chart 11. Employment rates by the 25-34 and 45-54 cohort with HE degrees between 2000 and 2011.

Source: Education At A Glance (OECD, 2013).

## Discussion

What does this analysis imply about specific country differences in the strength of the relationship between participation rates and inequality of higher education opportunity? The most rapid rates of increase in participation and higher education qualification during the past three decades have been achieved in the East Asian countries, which now have the highest higher education qualification rates of any region. This has been achieved despite relatively high private costs to higher education and low levels of government support to students. This study has not examined the cultural factors that lie behind this rapid increase, but we can at least say that this increase does not appear to have been hampered by the high private costs involved in this case. The same may be said for the liberal countries, where a rapid expansion has also been observed despite relatively high private costs to participation. These two groups of countries have been very successful in widening overall access to higher education but have taken somewhat different routes. The East Asian countries have rapidly increased participation in general academic programs while keeping participation in vocational programs stable. The liberal countries have rapidly increased participation in general academic programs but at the cost of declining participation – until recently – in vocational programs.

Relatively high participation rates have also been achieved in the Scandinavian countries and in the smaller social market countries of north-west continental Europe. Here, as in the liberal countries, high participation has been achieved through the expansion of general academic programs, despite a decline in participation in vocational programs. Private costs to students are relatively low in these countries (which retain minimal tuition, unlike in liberal and Asian countries), and state support to students is relatively generous. These factors will be increasing demand for higher education places, which, through generous government funding, has been largely met by the generous public funding of institutions.

Participation rates achieved in the Mediterranean and two of the social market countries (Austria and Germany) are substantially lower. This finding was observed despite the generally relatively low fees charged. The lack of public financial support may partly explain this finding in the Mediterranean countries (although this phenomenon has not deterred participants in the East Asian countries), but this observation does not apply to the same extent as in Austria and Germany. In these two countries, participation in higher education seems more likely to have been kept down intentionally by governments, which have been keen on providing alternatives through various forms of high quality vocational training (Dual System Apprenticeships, etc.).

Higher participation in full-cycle higher education programs is generally seen as a public economic and social benefit. It is also generally believed to be a democratizing process that helps to increase equality in opportunities and outcomes in education. Our analysis in this study suggests that the relationship between participation rates and the inequality of opportunities and outcomes is more complicated than this finding implies. The gap in the probabilities of children from different social backgrounds of gaining higher education qualifications has generally declined in most countries. We observed from the analysis in Chart 1 of the odds ratios of higher education qualification for children of graduates and non-graduate parents that the social gap between the probabilities of higher education graduation declines with the age cohorts in most countries. However, the inequality of opportunity for higher education graduation is by no means the lowest in countries with the highest participation rates. On the one hand, the liberal and East Asian countries, which have the highest average higher education qualification rates, generally have relatively high inequality of opportunity, with the exception of South Korea, which has achieved sharp declines in the inequality of opportunity through the age cohorts. On the other hand, the social democratic Nordic countries, with lower rates of participation, have relatively low inequality of opportunity. The contrast is even stronger with Austria and Germany, which have relatively significantly lower

participation rates but significantly less inequality of opportunity than the countries with high participation rates.

The different patterns of the expansion of higher education, privatization, and marketization have had direct effects on employment opportunities. East Asian countries have the lowest employment rates among other countries given the highest private contribution to the tuition fees, whereas social market countries and Northern European small states have higher employment rates for university graduates. The countries that have been the most successful in terms of increasing participation in higher education and achieving relatively low inequality of opportunity are the Nordic countries. These countries have generally maintained high employment rates and relatively high wage premia for younger graduates as well (although not for adult graduates as a whole). They may also prove to be the countries where rates of return are least likely to fall because costs to graduates have been kept low at the same time as graduate wage premia are sustained. This advantage should maintain high demand for higher education participation in these countries. However, the problem to be faced by their governments is that the public costs of the higher education systems will increase to very high levels if the demand for higher education is met.

### *A note on East Asia*

The most rapid rises in participation and HE qualification during the past three decades have been achieved in the East Asian countries, which now have the highest HE qualification rates of any region. This has been achieved despite relatively high private costs to higher education and low levels of government support to students. We have not examined here the cultural factors that lie behind this rapid increase but we can at least say that it appears not to have been hampered by the high private costs involved in this case. However, there remain many unanswered questions in the research on higher education in Asian contexts. Existing research on East Asia shows that the expansion of higher education opportunities has powerful effects on individual life chances (Liu, 2013), as well as on the changing forms of governance in higher education and on government national development strategies (Mok, 2010). We also know that access to higher education varies for people from different social and geographical origins (Liu, 2015) and that the wage premium for graduates from elite universities is significantly higher than that for graduates from non-elite universities (Hartog et al., 2010; Li et al., 2012). More recently, comparative research has been conducted to examine how the massification of higher education has affected graduate employment and social mobility in Greater China and East Asian regions (Mok, 2015). However, much less is known in detail about how the structural changes in pathways in the East Asian contexts - in terms of types of universities and fields of study - are linked to different

destinations in the labour market and about how labour market outcomes are affected by other factors, such as social capital and family networks. Therefore further research is required to investigate the changing relations between pathways in higher education and destinations in the labour market and the impact of these on young people's life chances and social attitudes.

## **Conclusion**

This study is a modest attempt to extend the comparative model of country groups to analyze the cross-national trends in higher education expansion and opportunities. We use descriptive data on the characteristics and outcomes of higher education systems in different country groups, including the liberal market countries, the social democratic countries, the Mediterranean countries, the German-speaking countries, the Northern states, and the East Asian societies. At the theoretical level, the validity of the MMI theory is assessed in the cross-national contexts. We confirm the MMI theory in the general patterns of the expansion of higher education opportunities; however, we argue that providing accounts on specific country differences in the strength of the relationship between participation rates and inequality of opportunities is not sufficient. Therefore, we explain the divergences from the general pattern of higher participation being associated with lower inequality. We propose three main contenders including the privation contribution to higher education (the liberal countries), less hierarchical higher education systems, participation in type B higher education, and greater public support and entitlements (the Nordic and German speaking countries). We use a series of indicators on the trends of participation in higher education and different types of universities, the private contribution to higher education, and the trends of public support and entitlements to assess the three contenders. Thus, we argue that different patterns of the trade-offs exist between expansion and equalizing opportunities. Most of the rapid expansions are observed in countries with high private contributions to higher education and little government support for students mainly because governments can then afford more places, but the equalization of opportunities from the expansion in these systems is limited because of financial barriers to access to less well-off groups. Most egalitarian systems seem to have somewhat lower participation rates with lower fees and strong government support, such as the social democratic countries and the German-speaking countries.

## References

- Ayalon, H. & A. Yogev (2005). Field of study and students stratification in an expanded system of higher education: The case of Israel. *European Sociological Review*, 21(3), 227–41.
- Benito, R., & M. A. Alegre (2012). The Changing Patterns of Individual and School Effects on Educational Transitions. Evidence from Catalan Data (Spain). *Educational Research*, 54(1), 65-87.
- Brinton, M. (2011). *Lost in transition: Youth, education and work in post-industrial Japan*. Cambridge: Cambridge University Press.
- Brown, P, A. Green, & H. Lauder. (2001). *High skills: Globalization, competitiveness and skills formation*. Oxford: Oxford University Press.
- Brown, P., H. Lauder & D. Ashton. (2010). *The global auction: The broken promises of education, jobs and rewards*. New York: Oxford University Press.
- Carnoy, M. (2011). As higher education expands, is it contributing to greater inequality? *National Institute Economic Review*, 215 (1), 34-47.
- Chesters, J. & L. Watson (2013). Understanding the Persistence of Inequality in Higher Education: Evidence from Australia. *Journal of Education Policy*, 28(2), 198-215.
- Felstead, A., F. Green, & N. Jewson. (2012). An analysis of the impact of the 2008-09 recession on the provision of training in the UK. *Work, Employment and Society*, 26 (6), 968-986.
- Green, A., J. Preston, & G-J. Janmaat. (2006). *Education, equality and social cohesion*. Basingstoke: Palgrave.
- Green, A., & G-J. Janmaat. (2011). *Regimes of social cohesion: Societies and the crisis of globalisation*. Basingstoke: Palgrave.
- Green, F., & Y. Zhu (2010). Overqualification, job dissatisfaction, and increasing dispersion in the returns to graduate education. *Oxford Economic Papers*, 62(4), 740-763.
- Hanushek, E., & L. Wößmann. (2010). *The economics of international differences in educational achievement*. Working Paper 15949. Cambridge, MA.: National Bureau of Economic Research.
- Hao, L.X., H. A. Hu & L. Jamie (2014) Two Aspects of the Rural-urban Divide and Educational Stratification in China: A Trajectory Analysis. *Comparative Education Review*, 58 (3), 509–36.
- Hartog, J., Y. Z. Sun & X. H. Ding (2010). University rank and bachelor's labour market positions in China. *Economics of Education Review*, 29(6), 971-979.
- Hutton, W. (2011). *Them and Us. changing Britain – Why we need a fair society*. London: Little, Brown.

- Ishida, H. (2007). Japan: Educational expansion and inequality in access to higher education. In Shavit, Y., R. Arum & A. Gamoran (Eds.), *Stratification in higher education: A comparative study* (pp. 63-86). Stanford, California: Stanford University Press.
- Jackson, M., R. Luijkx, R. Pollak, L. Vallet & H.G. van de Werfhorst. (2008). Educational fields of study and the intergenerational mobility process in comparative perspective. *International Journal of Comparative Sociology*, 49(4-5), 369-388.
- Kosugi, R. (2008). *Escape from work: Freelancing youth and the challenge to corporate Japan*. Melbourne: Trans Pacific Press.
- Li, H.B., L. S. Meng, X. Z. Shi, & B. Z. Wu (2012) Does attending elite colleges pay in China? *Journal of Comparative Economics*, 40(1), 78-88.
- Liu, Y. (2013). Meritocracy and the *Gaokao*: A survey study of higher education selection and socio-economic participation in East China. *British Journal of Sociology of Education*, 34(5-6), 868-887.
- Liu, Y. (2015). Geographical stratification and the role of the state in access to higher education in contemporary China. *International Journal of Educational Development*, 44, 108-117.
- Lucas, S. R. (2001). Effectively maintained inequality: Education transitions, track mobility and social background effects. *American Journal of Sociology*, 106(6), 1642-1690.
- Marginson, S. (2015) 'Global stratification in higher education'. In Slaughter, S. and Taylor, B. J. eds. *Higher Education, Stratification and Workforce Development: Competitive advantage in Europe, the US and Canada*. Dordrecht: Springer.
- McMahon, W.W. (2010). Higher learning, greater good: The private and social benefits of higher education. *Educational Philosophy and Theory*, 42(4), 504-506.
- Mok, K.H. (2010). *The search for new governance of higher education in Asia*. London: Palgrave Macmillan.
- Mok, K.H. (2015) Massification of higher education, graduate employment and social mobility in the Greater China region. *British Journal of Sociology of Education*, 37(1), 51-71.
- Mountford-Zimdars, A., S. Jones, A. Sullivan & A. Heath (2013). Framing higher education: Questions and responses in the British Social Attitudes Survey, 1983-2010. *British Journal of Sociology of Education*, 34(5/6), 792-811.
- Organization for Economic Co-operation and Development (OECD) (2006, 2007, 2008, 2009, 2011, 2012, 2013). *Education at A Glance*. Paris: OECD.
- Organization for Economic Co-operation and Development (OECD) (2010) *Programme for International Student Assessment (PISA) 2009 results*:

- Overcoming social background equity in learning opportunities and outcomes, Volume 11.* Paris: OECD.
- Organization for Economic Co-operation and Development (OECD) (2013a). *PISA 2012 results: Excellence through equity: Giving every student the chance to succeed. Volume 11.* Paris: OECD.
- Organization for Economic Co-operation and Development (OECD) (2013b). *Skills outlook 2013: First results from the survey of adult skill.* Paris: OECD.
- Paterson, L. & C. Iannelli (2007). Social class and educational attainment: a Comparative Study of England, Wales, and Scotland. *Sociology of Education*, 80(4), 330-358.
- Piketty, T. (2013). *Capital in the twenty-first century.* Cambridge, MA: Belknap.
- Putnam, R.D. (2015). *Our kids: American dream in crisis.* New York: Simon & Schuster.
- Raftery, A.E. & M. Hout. (1993). Maximally maintained inequality - Expansion, reform, and opportunity in Irish education, 1921-75. *Sociology of Education*, 66(1), 41-62.
- Recchi, E. (2007). Italy: Expansion reform, and social inequality in higher education. In Shavit, Y., R. Arum & A. Gamoran(Eds.),*Stratification in higher education: A comparative study* (pp. 400-420). Stanford, California: Stanford University Press.
- Reimer, D., C. Noelke & A. Kucel. (2008). Labor market effects of field of study in comparative perspective: An analysis of 22 countries. *International Journal of Comparative Sociology*, 49 (4-5), 233-256.
- Shavit, Y., R. Arumand A. Gamoran (2007). *Stratification in Higher Education: A Comparative Study.* Stanford, California: Stanford University Press.
- Silva, J. M. (2012). *Coming up short: Working class adulthood in an age of uncertainty.* Oxford: Oxford University Press.
- Standing, G. (2011). *The Precariat: The new dangerous class.* London, UK: Bloomsbury Academics.
- Tsai, S.L., & Y. Shavit (2007). Taiwan: Higher Education-Expansion and Equality of Educational Opportunity. In Shavit, Y., R. Arum & A. Gamoran (Eds.), *Stratification in higher education: A comparative study* (pp. 140-164). Stanford, California: Stanford University Press.
- Wilkinson, R. & K. Pickett (2009). *The Spirit Level: why more equal societies almost always do better.* London: Allen Lane