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## **Higher Education: Options for Future Funding in China**

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### **Abstract**

The present (and foreseeable) climate within the Higher Education sector in many countries is one of constrained University funding, increased participation rate targets, stronger quality enhancement frameworks, and a continuing debate on 'who should pay'. These are just some of the changes facing the sector. This is therefore an opportune moment to assess the extent to which China is positioned to cope with the liberalisation of the Higher Education sector in the context of a globally competitive market – a market which is likely to be underpinned and regulated by the WTO's General Agreement on Trade in Services (GATS). The argument presented here is a straightforward one – the Higher Education sector and the Government should openly and enthusiastically embrace liberalisation - a failure to do so, or to 'tinker' at the edges of the system, will run counter to economic logic, current and future market trends, increased participation, enhanced quality and improved accountability. In short, a healthier and prosperous future for Higher Education in China is much more of a possibility if it is opened up to market forces than if it continues to be mainly dependent upon the taxpayers.

### **Keywords**

China, Higher Education, Funding Mechanisms, Sustainability and Public Goods.

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## **INTRODUCTION**

The argument that higher education (HE) is a public good lies at the root of the role of the State in the funding of Universities across most of the world. It is only recently that the hegemony of the State in the provision of higher education has been called into question. Not exclusively by economists but also educationalists, sociologists, scientists, politicians and key organisations such as the World Bank, UNESCO and the OECD. Higher education is no longer the exclusive preserve of the elite but has developed, especially in the industrial countries, to the point where many commentators justifiably talk of the 'massification' of higher education. The growth in enrolments in higher education across the world has been rapid in the last twenty years and particularly fast in the last 10 years.

National governments view the sector as a major driver in the creation and maintenance of the 'knowledge economy' and of critical importance to the competitiveness of their economies. Continued expansion of the age-specific enrolment rate coupled with national policies to promote life-long learning have focused the debate on the future of higher education in two important respects: how to enable sustainable funding of the sector in future years and how to ensure the sector remains competitive in a world of global accessibility and increased student choice.

In this paper we want to address a number (but by no means all) of the issues which face the future of HE in China in the context of potential global challenges to its ‘customer’ base and to its position of a highly respected and reputable system of advanced education. The argument put forward here is that the coming debate must openly include the option of a significant liberalisation of HE in China and is presented under two related themes:

- Higher Education as a tradable commodity
- Future funding options

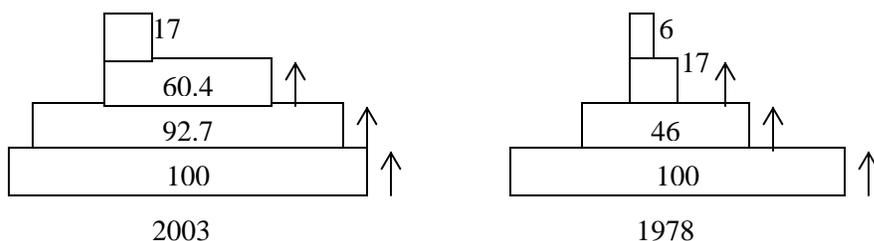
Before we consider these it is necessary to first set out the recent history of the expansion of education in China. In the next part of the paper we discuss the nature of higher education as a tradable commodity in the context of a comparative analysis of developments in several countries. Then we move to an analysis of the sustainability of higher education expansion in China and the various funding options that could help to maintain or even enhance sustainable expansion. Finally we present our conclusions and recommendations on the basis of the discussion and analysis.

## **RECENT EXPANSION OF EDUCATION IN CHINA**

As of April 2004 China reached a net primary school enrolment rate of 98 percent and a gross enrolment rate of 119 percent. In 1978 the net enrolment rate was 84 percent. At the secondary level (junior and senior high school) gross enrolment numbers in April 2004 had reached 66.9 million and 32.4 million respectively. The transition rates from primary to junior high school and from the latter to senior high school were 92.7 percent and 60.4 percent respectively. In 1978 these rates were 46 and 17 percent respectively (PRC Ministry of Education, 02-04). These ‘raw’ statistics describe an expansion at the pre-university level which is unparalleled by any other publicly funded education system in the past thirty years. The development of human capital has been at the centre of China’s economic strategy since the country ‘opened’ up in 1978. An even more impressive performance can be seen in the expansion of higher education. This sector began real expansion in 1999 – with 2.12 million graduates in 2003, 1.45 million in 2002 and just over 1 million in 2001. The number of graduates had more than doubled in just 2 years! By 2007 the number of graduates is forecast to reach 3.8 million (CEQ, 2004). Even these remarkable growth rates in recent years have still left China with just under 5 percent of its adult workforce attaining a higher education – considerably less than developed countries. The rapid change at post-primary level can be seen in the transition pyramids shown in Figure 1 below. However there is a ‘downside’ to such rapid expansion – according to Zhao (2003) the internal rate of return (IRR) to education in China at most levels has been rising very rapidly – 10 percent for primary schooling, compared with 4 percent in the 1980’s, 51 percent for secondary technical (29 percent in the 1980’s) and an astonishing 72 percent for higher education compared with an already high rate of 38 percent in the 1980’s. The ‘downside’ is that there has been no change in the IRR recorded for junior high school leavers. These school leavers typically formed the recruitment base for the manufacturing companies in the Pearl River Delta (China and the world’s manufacturing centre) – an area now struggling with labour shortages since many of the relevant age group now choose to stay on to senior high school (CEQ, 2004). This will certainly

put upward pressure on manufacturing wage levels and thus affect a key competitive advantage China has enjoyed for decades.

**Figure 1:** Transition Rates 1978 and 2003



Source: Calculated from PRC Ministry of Education (various years)

Note: Primary = 100

The expansion at primary and secondary levels has doubtless created a ‘taste’ for more education and this is, to some extent, being accommodated by the expansion of the higher education sector (12.12 million enrolment in 2004) and the post-secondary college sector (7.8 million enrolment in 2004) and these are primarily funded by the State. However an increasing number of higher education students in China have opted for overseas (often self-funded) programmes while others have been enrolling at Chinese universities which have cooperative agreements with foreign universities, also often self-funded. Even at school level, in 2002 there were more than 2 million children enrolled in private education (Min Ban schools) compared with less than 1 million in 2001. In addition there now just over 700 private foreign-local schools, colleges and higher education establishments operating in China. Recent legislation in this area (PRC Ministry of Education, 2003) now explicitly allows profit to be cited as a legitimate objective of such establishments. Most of this private provision exists along the eastern coastal cities and in Beijing but the legislation now paves the way for their establishment across China.

The willingness to pay for education at all levels in China is evident, strong, accelerating and a clear indication that parents and students are no longer prepared to wait for the inter-sectoral transition rates to improve. Of course only those families able to select the self-funding option are benefiting from the liberalisation of education and this raises a number of key issues of equality of access, opportunity and geographical inequalities in the education system of China.

To address these and to greatly improve transition rates the Government would need to increase its education expenditure at a rate that we argue would threaten the development of other key sectors in the economy. In 2002 expenditure on education was 13 percent of total Government expenditure – in the UK the same ratio was only 5 percent. Therefore, to further expand the secondary and higher education sectors would impose a major strain on both Government spending and taxpayers.

But China does need more highly qualified manpower therefore alternative approaches to the required expansion of the higher education sector in particular must be considered. In the next Section of the paper we argue that higher education rarely meets any of the criteria of a public good and as such is a highly tradable commodity supported by a strong willingness to pay and thus alternative funding arrangements for Universities do exist, can be practical and can be implemented effectively in China.

## HE AS A TRADEABLE COMMODITY

Very few economists would argue that higher education itself is characterised by any of the fundamental requirements we expect to be present in a public good. It is almost self evident that the requirement of non-excludability of consumption is and always has been violated. In addition, and this is the key point, higher education is a tradable commodity and as such completely breaks all of the ‘tests’ economists would apply to the determination of the existence of a public good. The assumption of non-rivalry is clearly untenable since supply rarely meets demand, especially in developing countries. It could be argued of course that it is the more intangible ‘outputs’ of HE which typifies it as a public good, these outputs are typically claimed to include:

- Nation building and leadership development
- Reduced crime rates
- Social mobility
- Formation of ‘good’ citizenship
- Increased democratic participation
- Improved health

However it has been argued that any social gains over and above the private return to the individual beneficiaries of HE are more asserted than proven and it still remains the case that the vast bulk of HE benefits are captured by individuals (OECD, 2001). In the case of the UK this is exemplified by the observation that, “... with its very high rewards [for graduates] from tertiary education, the UK is in a group of its own.” (Blondal, S. et al, 2002, p.24).

We must also consider the fact that it is still the case that the proportion of the relevant age group enrolled in HE from the highest social classes in the UK continues to dominate to the tune of over eighty percent of the student population. This ratio represents a negligible improvement from that evidenced in the famous Robbins report on HE published nearly forty years ago. After more than forty years of ‘free’ HE in the UK the beneficiaries, in terms of the social class they originate from have not really changed. Therefore for the vast majority of those of the relevant age group not from these social classes the argument that HE is a public good is stretching the justification for general taxpayer funding to a point which is simply not credible.

In China the income gap between graduates and non-graduates is very high and this is hardly surprising given the very rapid increases in the rates of return reported above. It has been estimated recently that the total subsidy per HE graduate (averaged across all OECD countries) is approximately 50,000 euros. This is a transfer of resources from the public at large to a primarily non-representative group of the population. A similar transfer is clearly operating in China but perhaps at a proportionately higher rate.

The financial benefit accruable to a graduate in the UK currently exceeds 18 percent for men and 16 percent for women<sup>1</sup> - a rate of return that even the London Stock Market would be hard pushed to match. But this is low compared to the same measure for China (72 percent) indicating a significant shortage of graduate manpower. Further expansion of graduate output is therefore essential if the IRR for a graduate is to fall to ‘normal’ levels and by implication if such labour is to maintain a competitive advantage. The economic case for expansion of higher education in China is, in our view, an unassailable one. The question which thus arises is this: would a significant shift to a market oriented, demand driven system affect the current social

imbalance in the participation of different social classes in HE? The evidence on this is not comprehensive but what does exist seems to suggest that access to HE is actually improved by the introduction of some form of payment system.

The reintroduction of tuition fees in Australia has had no measurable effect on student enrolment per se and has not reduced participation rates among students from lower socio-economic backgrounds (Vossensteyn and Canton, 2001).

In the UK the introduction of tuition fees<sup>ii</sup> and subsidised loans appears not to have had any significant effect on participation rates while the proportions of female and ethnic minority entrants have actually increased (DfEE, 2001). However even the subsidised loan system represents a transfer of resources from the taxpayer to primarily one or two social class groupings. We come back here to the fundamental point that HE, more so than ever before, is a highly tradable commodity and not in any significant sense a public good in its own right. Just as in the UK, Australia and many other countries China should consider other options for the funding of higher education.

The single biggest barrier to accessibility to HE is the availability of finance. In an imperfect national and global capital market it is very difficult to access funds for education and training. The reasons are complex but essentially they involve the twin problems of non-divisible collateral and non-diversifiable risk. The decision to forego earnings for three or more years in order to gain a higher education involves not only costs but also the risk that the expected premium in the present value of lifetime earnings may not in fact materialise. This is more of a problem for people outside the usual relevant age group (24 plus) since the opportunity cost of the foregone earnings will be typically higher and the number of years of work remaining available typically lower as compared with an 18 year old. In addition the 'human capital' portfolio acquired is essentially non-diversifiable – only in very limited ways can bits of it be allocated to other job functions. If we couple this with the fact that human capital does not offer collateral to the lender(s) (that is you cannot (yet) be 'repossessed' or sold to satisfy unhappy creditors) then it becomes clear that entering HE or training at any stage in the lifecycle, without State subsidisation, becomes a risky decision. However this has not deterred thousands of adult workers in China from entering HE on a part-time basis (CEQ, 2004).

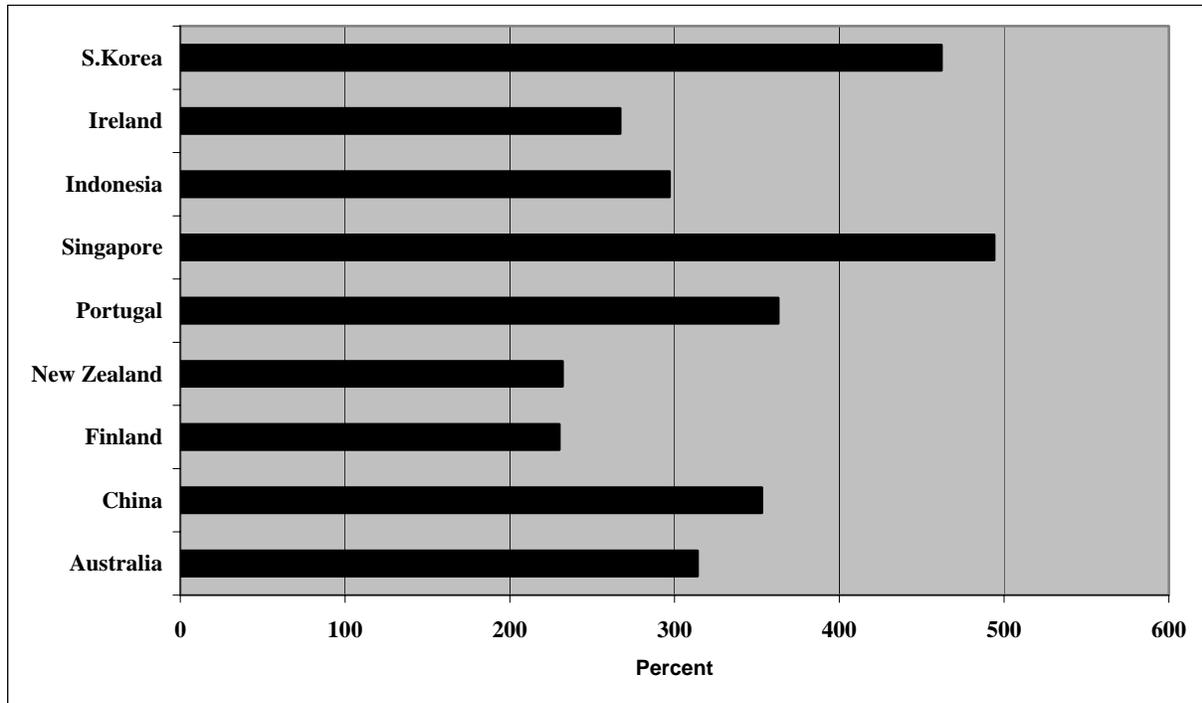
The expansion of the Chinese economy (at an average 7.9 percent per annum since 1982) also imposes even greater requirements on matching employer demand to graduate supply while the need to meet the increased expectations of (paying) students will become very important. This is likely to be even more the case in the lifelong learning 'sector' where experienced adults wishing to engage in higher education and with a set of quality and delivery expectations which are even higher than those found among the traditional age specific group are becoming more common in China and elsewhere.

However, as argued elsewhere in this paper, the decision to invest in education or training at later stages in the lifecycle represents a significant risk. Research has shown that the rate of return to a university degree declines rapidly with age (Wolter and Weber, 1999) to the point where in many countries it is actually negative! The economic incentive for any individual to engage in lifelong learning beyond the age of 40 is extremely weak. For example the private IRR falls from 8.8 percent (at age 45) to below 5 percent (at age 50). Compare this with the 18.1 percent someone can expect at the age of 18. But even accepting this argument it remains the case that in most countries in the world the risk-return tradeoff for investing in HE is an extremely good one as compared with almost any other form of investment. This appears to be one of the driving forces behind the growing demand for HE across the world and given the

IRR's reported for China (above) is a key element in the decision of working age adults to accept the 'risk' of HE in China. The increase in HE participation in many countries, including that of adults, has been very rapid.

Consider Figure 2 - The gross enrolment ratio growth rates reported are impressive – in rapidly developing economies (China), developed economies (Australia) and in lower income economies (Indonesia) the expansion in HE enrolments has been substantial.

**Figure 2:** Proportional Increase in GER's in HE (1980-2003)



Source: UNESCO and World Bank data tables (various years)

The countries represented above also comprise a mix of very differently funded HE systems: in S.Korea the public funding proportion is 22 percent (78 percent private) while in the UK public funding represents 75 percent of the cost of provision. It is also noteworthy to point out that three of the countries in the above Figure (China, Indonesia and S. Korea) were the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> largest borrowers respectively for investment in higher education throughout the 1990's (World Bank, 2002, op.cit.).

Whether funding has been primarily public or private it does not seem to have made much difference to the demand for HE – the very attractive risk-return tradeoff has clearly been recognised across the globe. And if this is the case then there is nothing to prevent future students from choosing how, where and when they will study – the expansion of demand has been coupled with a similarly rapid expansion in supply and increased diversity in delivery platforms including distance learning, flexible learning, franchising and, in China, even the construction of foreign university campuses (CBTR, 2004).

None of the countries in Figure 2 have achieved their expansion rates purely on the basis of taxpayer funding, including China. However, as argued above, further expansion of the HE

sector in China will require more and varied funding options in order to achieve both economic and social equity outcomes. We turn to these in the next Section of the paper.

## **FUTURE HE FUNDING OPTIONS IN CHINA**

If higher education is to continue to expand in China and participation rates to rise without an inordinate burden being imposed on the taxpayers it is essential that alternative funding mechanisms are identified, evaluated and eventually implemented. The country already spends a significant proportion of Government expenditure (13 percent) on education and this is cannot be fiscally sustained in the face of many other competing demands, in particular the new policy of regional development which will require enormous investment and recurrent spending levels (Beijing Review, 2003).

There are a number of mechanisms which could release a very significant proportion of latent demand for higher education places in China and which could create the additional supply of places that will be required. Many of these ‘innovations’ have already been introduced in many countries across the world. We examine the more ‘popular’ alternative funding mechanisms below and assess to what extent they are practicable in the context of China’s current stage of development.

### **Loan Schemes**

Loans are being increasingly used as a means of overcoming problems related to equality of access in the face of increasing costs, borne by students and families, usually in the form of tuition and fees. The loans can be provided by government, educational institutions, banks, or private institutions. Student loans can be no-interest, low-interest or a combination of both. Student loans are found in a large number of countries. In recent years the World Bank has supported student loans projects in several countries. Student loan schemes can be found in countries like China, Columbia, Dominican Republic, Germany, Ghana, Hungary, Jamaica, Japan, Mexico, Venezuela, Vietnam, and the UK amongst others (Albrecht and Ziderman , 1991).

However in several of these countries the loan schemes are not universal in spatial terms and are not universally accessible across the relevant age group. It is essential that all potential students do have access to such a scheme otherwise the private sector provision will continue to be constrained. In 2006 foreign banks will be able to operate all types of personal transactions in China (in local currency) therefore the student education loan market may well pose an attractive investment for these banks.

With cost sharing with students, the money released from student maintenance grants and raised by means of graduate contribution to tuition generates new resources to fund higher quality and expansion of higher education. If the loan scheme is administered by the government, the first phase of implementation will require an initial government outlay, but since the money will eventually be “recycled” once students commence employment and start paying back the loans, the cost to the government in terms of loan disbursement will stop increasing.

If the loan scheme is administered by banks, including foreign banks or other finance houses there might be no cost to the government or it could just be in terms of topping up of the interest payable on the loans taken by students.

Student loans have the following advantages:

- (a) Achieve the required increases in the tertiary enrolment rate;
- (b) Enhance access;
- (c) Make higher education more equitable; and
- (d) Assure revenue diversification and autonomy.

The advantage of loans over maintenance grants and direct payment of fees by the State is that the former departs (although not totally) from parental contributions and hence allows students to make their own education choices.

In spite of the popularity of the student loans scheme it is not devoid of problems. In many cases it is not equitable as it is applied to only certain types of courses and a restricted category of students. Very often it is regarded as a burden when repayments start and may even create a poverty trap as a major part of the income of the student may be used to pay back the loan and the interest.

There are two sets of concerns in the loans scheme. Advocates of student loans assert that the burden of loans on public budgets is lighter than grants and scholarships. They also contend that loans have the hidden possibility to devolve some of the cost of education to those who benefit most from the educational investment. On the contrary, some argue that such a loan will fail to encourage low-income students to pursue their education. But it could equally be argued that funding via students increases equity as it stimulates access to higher education and provides impetus to efficiency and quality by increasing competition for students among higher education institutions.

Nevertheless there is the risk that such an instrument may lead to a drop in education standards. Students expressing their choices on their own can be both costly and inefficient to institutions and hence the whole higher education system. In China the curriculum at university level is closely controlled by the State and there is the risk that this could be weakened, especially on the ideological front although this may well be seen as a major advantage of greater student choice. Moreover, students may be tempted to opt for low cost courses to reduce expenditure. As demand for higher education increases, the burden on public expenditure of higher education increases. Government cannot continue to sustain funding of higher education. It has been therefore recognised that private funding should be resorted to so as to close the funding gap. Private funding refers mainly to funds derived from students and the employers.

With a free or heavily subsidised higher education system, overwhelmingly the middle and higher-income groups gain high government subsidy and the subsequent benefits. Moreover, “no tuition fees” policies do not necessarily facilitate entrance to higher education by the lower income groups. Although entrance to university in China is via a national examination it is unlikely that those from poorer Provinces and backgrounds take this examination on a ‘level’ playing field, hence inequalities in accessibility will remain irrespective of a no tuition fees policy. Those from the eastern coastal cities do tend to do better in the examination (Beijing Review, 2003). Hence the problem of the transmission of inter-generational deficiencies in education and human capital in China remains as much as it does in many Western societies.

There is no doubt that students in developed and developing economies are the major direct beneficiaries of higher education. They are fully aware of the fact that a degree has real cash value in the job market. Taken as an investment, the expenditure on higher education yields a high return to the students. Calculations have shown that the private rate of return is always

higher than the social rate of return at the higher education level and hence there is merit in asking the students to contribute to the cost of their higher education (Psacharopoulos and Woodhall, 1985). A student loans scheme is a serious option in China and given the rapid development in financial services is one that could be implemented fairly quickly but only ten years ago would have been technically impossible.

### **Tuition Fees**

The fact that higher education increases the earning capacity of the students after their graduation has encouraged the charging of user fees from the ultimate beneficiaries of higher education—students themselves. More and more developing nations have been shifting the cost burden from the taxpayer to parents and students in the form of tuition and fees. This tradition has been in place for a longer period in several industrialised and OECD countries. The World Bank has advocated this major departure mainly due to demographic and fiscal pressure. Economists acknowledge this movement for it reflects greater equity and a more reasonable alignment of those who pay with those who benefit. Some of the major universities in China have in fact been charging fees for many years although these are recognised as being heavily subsidised. Nevertheless the enrolment numbers have increased at these universities, they have not decreased. A similar picture emerges from other countries where tuition fees were introduced after years of ‘free’ higher education.

Since 1989 Australian students have been contributing to their education through the Higher Education Contribution Scheme by choosing between a discounted up-front payment and an additional charge to their annual tax bill once their earnings reach a minimum threshold (The Australian Vice Chancellors’ Committee Submission to the Review of Higher Education Financing and Policy, 1999). In Australia a differentiated fee is charged and in New Zealand institutions set a fixed average tuition fee to be paid by the students. Since 1998, Australian universities may offer places to undergraduate students for a fee payable directly to the institution. The advantage here is that universities are able to raise additional revenue without reducing opportunities for financially disadvantaged students. Although tuition fees have been part of the agenda in the USA they have been generally absent from European higher education. Students in California (USA) contribute to higher education via the Education Fee and the University Registration Fee, which are mandatory.

The income thus generated is used to support student financial aid, student services programmes, and a share of the University’s operating costs, including teaching. Many industrialised nations have just begun experimenting with the introduction of a means-tested fee. In the U.K a means tested fee of 1,000 Pounds Sterling has been introduced (Wagner, 1998). In Africa introduction of tuition fees and the shift towards nearly full cost recovery on accommodation and catering seems to be widely recognised as both obligatory and reasonable. Implementation has been generally slow, sporadic and disproportionate in Kenya and Zambia, in the early 90s (Blair, 1992)

Chile is the only country in Latin America, which recovers a large portion of its student costs through student fees. In 1981 fees were introduced in public institutions and the number of private colleges charging fees also increased sharply. In Argentina where the universities are left the choice to charge fees, a great majority of the students enrolled do not pay fees but some universities charge fees at the post graduate level. In Northern Mexico a joint student/faculty committee administers the fees collected from students to upgrade computer labs and purchase

scientific textbooks and journals (Salmi, 1998). In all of these cases the enrolment numbers in higher education have increased.

Economies in transition are also opening up to market forces and are faced with increasing costs in higher education. In Russia previously only students from enterprises or organisations were asked to pay fees. A governmental decree in April 1994 made tuition charges legal. However, the State Committee for Higher Education recommended that fee-paying students should not exceed 10% of total admissions. In other institutions like the University of Warsaw students classified as “evening” or “extramural”, were charged tuition fees. After recognising its heavy subsidisation of higher education (86% of per capita GDP as compared to 45% on average of OECD countries), in 1993, the Hungarian government opted for tuition fees in the public institutions at a fixed monthly rate. Tuition fees generally apply to all full-time students in undergraduate and doctoral training. Part-timers are charged a supplementary fee. Revenue generated from tuition fees for the referred period has covered approximated 7.5% of higher education outlay (Bollag, 1997).

Income from tuition fees in public universities represents 22% of recurrent expenditure in Vietnam, 36% in Chile and 46% in Korea (World Bank, 1994). The transition from heavily subsidised university students to cost-sharing students is more pronounced in Europe in that it has been relatively recent and taken at a much slower pace than in other continents.

### **Graduate Tax System**

The graduate tax is an additional charge to the students’ annual tax bill once they start earning a salary or once their earnings reach a minimum threshold. A graduate tax, in broad terms is a surtax incurred by the student on his or her income without regard to any amount individually owed. In a graduate tax there is no immediate relief to the government’s current cash obligation for the support of the universities or the students, although the government secures a stream of future income surtax payments. The students continue to get their usual subsidies in the form of low or no tuition fees and perhaps cost of living grants. However, they incur obligations for greater income tax payments (Johnstone et al, 1998).

Thus far, no country has successfully adopted a pure graduate tax system. The Higher Education Contribution Scheme (HECS) of Australia has adopted a system close to the graduate tax (Johnstone et al, 1998). In fact students are given the choice to either meet about a fifth of the cost of their degrees through the HECS under which they can pay the charge as an up front fee on enrolment (earning 25% discount for paying the fee before the beginning of each term) or hold off the annual fee until they graduate and repay the full sum as a tax surcharge. A large majority elect to pay the charge through the taxation scheme rather than up front. Students are not charged interest on the debt but the amount is indexed to inflation.

The graduate tax is often viewed as a tool to enhance contributions by students to the cost of their education. It can be used in the case where the student grant (not means-tested) is offered in exchange for an obligation of a graduate tax. The system offers the prospect of an adequate level of maintenance for students opting to pay a graduate tax and has the potential to protect the quality of education. Thus those confident about their future earnings will cease to receive unnecessary subsidy from taxpayers. The graduate tax is however ill viewed in developing countries; currently in South Africa it is believed to overburden taxpayers holding university degrees who will be constrained to pay an additional sum for their academic achievement. It is feared that the repercussion may eventually be a brain drain from the country.

The application of a graduate tax in developing countries would depend largely on the degree of viability of their respective income tax systems. A stable income tax regime might ease the acceptance of the graduate tax. This is why such a tax in China is unlikely to be attractive to policy makers at present – tax revenues in China are and have been volatile over many years. The tax system is not yet sophisticated enough to cope with a tax that has been difficult to implement or administer in countries with highly developed and stable tax collection systems. In spite of its strengths as a revenue-raising device it has been criticised on the basis that it is unfair towards those who earn higher revenue since they are forced to pay a disproportionate amount in relation to the cost of their education. It is also considered to be a life-long obligation as against a loan or fees that involve a limited time commitment.

### **Employers' Contributions**

Employers form part of those indirect beneficiaries of higher education. They have a vested interest in the supply of knowledgeable and skilled graduates and in lifelong learning to update the workforce. Employers of highly skilled and trained graduates clearly have a competitive edge, through the benefits reaped from their present or past relationship with universities and/or their ability to access a pool of people with know-how and expertise. As a consequence there is growing assent of increased contribution from employers, for instance through cadetships and scholarships, alumni, the professions and industry. In the UK employers are already contributing to post secondary education through sponsorship of research, students and courses, which is relatively high compared to other countries. To ensure that funding from employers forms a continuous flow, government may impose a compulsory levy, related, for example to their individual levels of investment in their training of graduates.

On the other hand it has been argued that governments should boost funding for university-industry linkages by means of strategic partnerships with industry and research and training schemes. It is also contended that appropriate incentives should be devised to attract funding from the industrial sector. By offering a tax deduction for industry investment in university research, teaching and training may help to achieve such an objective. Investment of this order may include scholarships, cadetships, sponsoring programs or chairs, and providing equipment for teaching. Industry-funded scholarships provide a constructive mechanism to promote linkages in a cost effective manner and help train the nation's future researchers. Many of the world's renowned multi-national companies—Mac Donald's, Microsoft, Motorola—have established their own "in-house" teaching and training programmes to ensure that their employees are equipped with the necessary skills and up to date knowledge to add-value to the industry (The Australian Vice Chancellors' Committee Submission to the Review of Higher Education Financing and Policy, op. cit).

With increasing demand from the industrial sector for specialised "just in time courses" tax deductibility may be beneficial to both higher education institutions and industries. Here again there is a problem for China in that this approach would require an efficient and stable tax system. In addition, traditionally employers in China have not been required to fund formal education and therefore making such a 'culture' change amongst employers is likely to take a very long time. Even in the area of research and development China's business sector only contributed 0.2 percent to total expenditure in 2002 (UNESCO, 2003). Government, including universities contributed 98.6 percent. In this context it is unlikely that direct employer contributions, even with tax deductible measures, would raise any significant funding for higher education in China.

### **Institutions as Fund Generators**

Higher education institutions can contribute to the increase of their own private revenues by indulging in entrepreneurial activities. The prime aim is to achieve specific new objectives beyond the core business of teaching and research.

It is largely accepted that higher education is becoming increasingly diverse and unequivocally tied up with the industrial sector (Johnstone, 1998). The faculties and their respective departments can raise financial resources through the sale of consultancy services and specialised courses, commercialisation of research and development activities, and selling and renting portions of their assets. Moreover, to assure guaranteed participation from all departments, the notion of cross subsidisation is applied. In so doing, those departments with low entrepreneurial potential are not left behind. In Mexico around 80% of the income locally generated is kept by the departments. In Argentina the resources generated by universities saw an increase to 14% of the total budget in 1996 from 7% in 1991 (Marquis, 1998). African universities (e.g. University of Zambia and Eduardo Mondlane University in Mozambique) are targeting non-university business organisations and individuals through the Internet. The Ghanaian universities have been fairly successful in the marketing of their consultancy services, indicated by a profit of 9% on a total income of US \$22,700 in 1991. These universities are acclaimed for the way they run their consulting centres (Blair, 1992).

Academic entrepreneurial initiatives in China have endowed universities with greater autonomy to generate their own revenues and half the number of higher education institutions in Shanghai operate over 700 enterprises. Already China has shown that it is flexible in its approach to fund raising vis a vis the Universities but this also needs to be extended to the students themselves in order to enable the private sector to develop more rapidly. A more precise method of generating income would be through the provision of short-term training courses directly to enterprises. A typical example is the Department of Law of Beijing University, which ran courses on a large number of newly adopted laws to employees in state-owned and joint-venture enterprises (Mukherjee, 1997). HEIs can also derive financial resources by charging an overhead in proportion to the nature of the research and the source of funding. By means of intellectual property rights universities have the capacity to reap extra revenues. Intellectual property acts as a crowbar to get in return for the use of facilities, resources and services provided by the institution outside the mainstream activities of teaching and research. Among richer countries, like the OECD nations, entrepreneurship is viewed as a university service and as a laboratory for teaching and applied research (Clark, 1998). With HEIs emerging as entrepreneurs new units outside the traditional departments are developed, thereby introducing new environmental relationships and new modes of thought and training. Privatisation of research centres can help to foster entrepreneurialism and increase revenue generation.

The benefits accruing from entrepreneurial activities are multi-faceted. Such activities render the HEIs more sensitive to fluctuations in market demands. They help in the provision of more relevant training experience. Linkages between HEIs and the corporate world contribute towards curriculum development, facilitation of work placements and part-time teaching arrangements. Moreover, they have the capacity to allow the HEIs to make wider choices. The limitation however is that this system may result in the institutions' over reliance on private income. In fact the extent to which discretionary money is complementary to declining government support is somewhat misleading. Often surpluses can hardly be deployed to sustain core activities. The rules and guidelines should be well delineated for the smooth operation of entrepreneurial activities. Resources obtained should be utilised properly to assert quality in

education. Money inflow must be dispensed in a manner that leaves no faculty or department lagging behind. It is also pointed out that not all HEIs will be successful at raising their own income.

This system may turn out to be rather divisive where only a relatively small number of HEIs gain any real benefits. However it is clear that where such initiatives have been allowed in China the results have been very encouraging. Expanding these across other universities and providing the necessary incentives is likely to be successful on the basis of what has already been achieved in a small number of institutions over a relatively short timescale.

### **Non-traditional Sources of Revenue**

The “non-traditional” sources of revenue can prove to be beneficial vis-à-vis decreasing levels of higher education funding from traditional sources (i.e. state appropriations, federal grants, tuition). The basket of non-traditional sources of revenue consists of alumni, grants from foundations, royalties, sales and/or services of educational activities, and income from sales and rental of real estate. The latter is unlikely to prove fruitful in China since private property rights remain confused and almost all assets essentially belong to the State.

Investment and voluntary support can add to the financial resources of the institutions. Funds whether endowment or non-endowment, when invested strategically can be an ongoing source of financial support that provides resources for future generations and revenue for current operations. Voluntary support can be closely defined as all restricted or unrestricted transfers of money given to an institution by an individual, group, business or non-governmental agency. The donor obeys a quid-pro-quo status, as it is not expected to derive any economic benefit from the use of the funds. Voluntary support includes private gifts, non-contractual research grants and bequests. It excludes income from invested funds, government support, and contract research. Like employer contributions this is not expected to be a significant source of funding for the foreseeable future in China.

### **Philanthropy**

Philanthropic giving to higher education is yet another supplement to government expenditure. The tradition of philanthropy is prevalent in countries such as the USA, Argentina, India and China. There are exceptions though: Beijing University had received US\$ 10 million by the Hong Kong tycoons to build the largest library in Asia. But the high level of philanthropic giving of higher education which is in the United States - an estimated of US\$14.25 billion in 1995/96, with eight of the top twenty recipients being public universities - is unlikely to be achieved in most countries (The Chronicle of Higher Education, Almanac Issue, 44:1, August 29, 1997, p.30)

Philanthropic activities are successful in the presence of a tradition of philanthropy along with a favourable tax treatment of charitable contributions. The latter will incur a haul in charges onto the government in the form of lost tax revenue. Prior to the 1970s it was thought in the USA that philanthropy or the support to the truly needy was to be channeled towards private institutions solely, public institutions being the “responsibility” of the government. But as State public revenue support began to wane, philanthropic activities were highly welcomed by public institutions too.

Philanthropy is therefore gradually becoming a further source of non-governmental revenue. However, it is unlikely that this form of financial support will gather momentum and play a major role in the near future in most countries including China even though the country

does have a history of philanthropy. Nonetheless, this source can be tapped by means of tax incentives and can be a good alternative for additional revenues (Johnstone et al, 1998).

## CONCLUSIONS

The drivers for change in higher education are numerous and complex and, in some cases, may be unalterable by the sector itself or by Government. Among the latter we include the demographic structural changes facing many countries, the rapid changes in the global labour market for 'knowledge' workers, the continuing attractiveness of HE as an investment and the advent of non-traditional HE providers.

The development of private provision of higher education in China will also depend on the existence of alternative funding mechanisms which are accessible by institutions and individual students. Whether these take the form of full cost tuition fees, a graduate tax, a student loans scheme or some other mechanism needs to be carefully evaluated. In this Paper we have argued that most of these options are simply not practical in China as yet or are unlikely to raise sufficient funds to make any significant difference. Nevertheless there are two mechanisms that could be implemented – student loans and the expansion of the liberalising policy of greater institutional autonomy. The latter has proven to be successful where it has been introduced and the former is now a practical option given the rapid developments in the financial services sector. The loans scheme is also far more likely to widen participation than any other option considered in this Paper. The evidence for this is incontrovertible in all countries that have introduced such a mechanism especially where the loans are primarily to fund tuition fees.

The public in China have already revealed a strong willingness to pay for education at all levels and the introduction of tuition fees supported by a well organised student loan scheme is unlikely to deter this willingness. In addition it must also be pointed out that the demand for higher education in China is still growing rapidly and from a longer term economic perspective we must consider the opportunity cost to the country of many young people failing to access higher education because of the absence of widely available alternative funding mechanisms. The status quo is not an option for the sustainability of higher education in China.

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## NOTES

<sup>i</sup> *The private internal rate of return to investing in HE – Blondal et al, 2002, op.cit.*

<sup>ii</sup> *In Scotland tuition fees no longer apply however students (or parents) still face a 'charge' of up to £2,000 within one year of graduation.*