

Higher Education Financing Policy: Mechanisms and Effects

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Abstract

Over the past decades, there has seen a significant and consistent worldwide reform agenda for higher education financing policy. This paper is to analyze factors that keep driving these reform; to identify the reasons why governments and higher education keep searching for funding alternatives; to show the relationship among funding sources and paths; to discuss funding mechanisms and models adopted by some Asian and Western countries; and to discuss the effects of funding policy on student access, institute autonomy, competition, stability of institutes, quality and performance of education, responsiveness to market demands and fiscal burden.

Introduction

Higher education has always been an important priority in the public agenda as it is considered an investment with economic return both for individuals and society. Due to rapid growth of student enrolment in the 90's and stringent funding allocated for higher education institutes, the decade of the 90's has seen a significant and consistent worldwide reform agenda for the finance and management of higher education institutes.

With the establishment of a knowledge-based economy in the 21st century, all countries try to find suitable strategies and special ways to keep up with the growing competition in the rapidly evolving global economy (Zhang, 2000). The demand of higher education thus keeps growing worldwide and especially in developing countries. Many governments face the problem of maintaining public funding levels for higher education (Harman, 1999). Therefore the problems and issues of funding higher education must be addressed.

The paper will examine the funding mechanisms that are being adopted by different countries. The funding sources, paths and allocation methods will be identified and discussed. The experiences and lessons learned will specifically be used for further research into funding models for Hong Kong Universities.

Searching for Funding Alternatives

When looking back over the development history of higher education worldwide, there have been consistent reform agendas for the financing mechanism for higher education (Johnstone, 1998). This section identifies the reasons why governments and higher education institutes keep searching for funding alternatives. Evidence and support will provide better information through actual examples and identifying other reasons from findings of research studies.

According to Johnstone (1998), there are five themes in which consistent financial reform could be grouped: expansion of student enrolments and diversification of types of institutes; fiscal pressure; ascendance of market orientations and the search for non-governmental revenue; demand for greater accountability; and demand for greater quality and efficiency.

Expansion of Student Enrollments

Many countries, especially developing countries, have expanded their higher education sectors rapidly in the 80's and 90's. The expansion of higher education enrollments worldwide has risen from 856,971 in 1980 to 1,154,721 in 1997 (34% growth), and for developing countries, the rise is even more significant from 625,450 in 1980 to 905,809 (44% growth) (UNESCO, 1999). For some specific countries, the enrollment grew at an even faster speed. For example, in Singapore student enrollments have risen from 22,633 in 1980 to 56,572 in 1990 (Department of Statistics, 1991). In Hong Kong, the enrollments have risen from 57,935 in 1994 to 68,546 in 2001 (18.3% growth in five years' time) (UGC, 2002b).

In regard to diversification of institute types, other than traditional universities, there is an increasing trend towards lower cost alternative institutes, such as community colleges, polytechnics, adult and continuing education programs, and distance learning programs (Johnstone, 1998; Salmi, 1992).

Fiscal Pressure

Obviously, expansion of student enrollments needs more funding. For instance, the expenditures of higher education in the United States of America have risen from \$146,087,836 in 1990-91 to \$189,986,238 in 1995-96, a growth of 30.1% in five years' time (NCES, 2001).

Other than the rapid increase of funding demand due to the rapid expansion of higher education enrollments, three other factors were found to contribute to fiscal pressure: consistent rise in unit cost, rising demands from other sectors, and resolving rigidities and inefficiencies in the public sector.

Consistent Rise in Unit Cost

Higher student enrollment may lead to higher recurrent costs, but in some cases, a decrease in the number of enrollments will not reduce recurrent costs. For example, in Australia, during the period of higher education expansion, the Government allocated more resources to institutes. However, when there happened to be a decline in enrollments, expenditure did not decrease accordingly. The reason was due to the fact that most teachers are tenured civil servants (Pechar, 1998). Hence, unit cost increased with a decrease in enrollments.

In some countries, such as in Hong Kong, unit costs kept rising over the years. The unit cost had risen from HK\$100,000 in the beginning of 1980's (Bray, 1993) to HK\$233,888 in 1998 (Ernst & Young, 1996).

Rising Demands from Other Sectors

Many countries face the common problem of maintaining public funding levels for higher education at a time of major expansion in student enrollments and increasing demand for public resources from other sectors of society (Harman, 1999). For instance, in Indonesia, the budget allocated for higher education had dropped from a 69.9% of the total education budget in the period 1983-88 to 16.6% in the period 1988-1993, whereas in the same period of time, the budget for vocation secondary schools had risen from 11.5% to 30.3% (Wirjomartono et al., 1997). A substantial portion of the total education budget had been shifted from higher education to vocation secondary education.

Resolving Rigidities and Inefficiencies in the Public Sector

Some governments tried to give more autonomy to higher education institutes so as to resolve the problems of inflexibility and inefficiency. For example, in China, the line item budget has been replaced by block grants, and institutes now can decide how to spend the money. The Government exercised only audit and supervisory functions to ensure universities were accountable for the appropriate utilization of public resources (World Bank, 1997). In the United Kingdom, the Government does not set a fixed number for student intakes. Instead, the Maximum Student Number of student enrollments has been used and institutes are allowed to exceed their Maximum Number by a permitted margin. This increases the flexibility of student access (HEFCE, 2001).

Ascendance of Market Orientations

Many researchers, especially economists and educationalists, have proposed the adoption of a market approach to funding education. It is expected that competition provides institutes with incentives to improve quality and to introduce dynamic innovation while at the same time costs can be reduced to maximize the return (West, 1997). Leslie and Slaughter (1997) and Williams (1995) pointed out that increasing the use of market mechanisms can achieve greater efficiencies and responsiveness. Government controls can be further deregulated by expanding the role of private funding and by increasing commercial activities by higher education institutions themselves. A voucher system, a funding method that allows money to move with students, is a typical market-oriented funding method that has been advocated by many researchers (Friedman, 1962; Jencks, 1970; Witte, 1996).

Demand for Greater Accountability

A growing dissatisfaction with the inefficient utilization of funds is a common problem in many countries. Many governments require value for money in the use of scarce public resources, thus accountability has been enforced in many education reforms. For instance, higher education institutes in Australia need to draft an Education Profile, which is used as a basis for negotiation of funding with the ministry (DETYA, 2001a). The Education Profile comprises a number of plans, such as a quality improvement plan, an equity plan, and a capital management plan. Such a profile is an important element in the public accountability of the higher education program.

Demand for Greater Quality and Efficiency

The reforms in higher education finance usually comprise of more than one objective and goal. Demand for greater quality and efficiency have been some of the core requirements. In almost all countries, teaching activities have to meet certain quality standards in order to be publicly funded. For instance, in Tennessee, USA, part of the public funding is allocated based on the planning for instructional program improvement, the score on performance indicators for teaching, and the score of student satisfaction (Banta, Rudolph, Van Dyke, and Fisher, 1996). These indicators are designed to provide incentives for institutions to improve the quality (THEC, 2000).

Other Reasons for Funding Alternatives.

Other than the reasons for funding alternatives mentioned by Johnstone (1998), there are also some other reasons identified in the literature:

- Meeting rapidly changing development needs.

For instance, in France, the new plan of Université du 3ème millénaire (U3M) tried to ensure that higher education and research could contribute more to the economic development of the regions and country. In China, the Government published the document Decision on Education Reform in 1985, which emphasized that more power and autonomy would be given to self-financing institutes. This reform was aimed at providing the appropriate mix of skills to meet the developmental needs of the changing society (World Bank, 1998).

- Increasing government control.

In Denmark, almost all higher education institutes are publicly funded. In the past ten to fifteen years, the government has made changes to the funding mechanism that were primarily aimed at exerting influence on aspects such as institutional organisation and courses offered (Kaiser, Vossensteyn, and Koelen, 2001).

- Shift of financial responsibility.

Some countries have adopted the policy of who-benefits-should-pay. For instance, in Singapore, even though the economy had recovered and the outlook was rosy after the recession in 1996, the leadership decided to shift a larger part of the financial burden to the beneficiaries of higher education by increasing tuition fees (Selvaratnam, 1994).

After examining the reasons for funding alternatives, it is necessary to understand the funding sources and the paths through which the sources reach the funded institutes.

Funding Sources and Paths

With scarce funding sources and growing student enrolments, the funding of higher education should be carefully planned to optimize the return. Woodhall (1992) and OECD (1990) suggest that financing higher education is not just a mechanism for resource allocation, but also a mechanism that facilitates dialogue between funders and users.

An investigation of the relationship of the funding sources and funded institutes can provide a basic understanding of the issues of education finance and its reforms. Several countries will be selected for discussion based on categorized funding sources. At the end of the section, a map will be constructed to show the relationship between the funding sources and the funded institutes.

Public funds

In China, 81.8% of public higher education institutes revenue came from public funds in 1992 (World Bank, 1997). In India, over 90% of higher education budget came from government grants (Tilak, 1997a). In Australia, the funding from Federal and State Governments accounted for 49.1% (CDEST, 2002). In New Zealand, government funding accounted for 51.1% (Ministry of Education, 2000). Singapore universities were receiving about 90 percent of their operating budget in 1990, but beginning from 1995 they receive only 60 percent through government funding (Selvaratnam, 1994). In the United States of America, the public funds from both Federal, State and Local governments accounted for 50.5% (NCES, 1997).

Traditionally, public fund can be channelled to institutes directly from ministries of education, such as Ministry of Education in New Zealand. However, there are also other indirect paths, such as funding agencies, subsidized loans, and student grants and voucher.

Funding agencies

Some governments have tried to protect the independence of higher education from direct political interventions by establishing intermediate funding agencies (Albrecht and Ziderman, 1992). These agencies function to advise the government on finance issues of higher education. The University Grants Committee (UGC) in Hong Kong and India, and Higher Education Funding Council in England (HEFCE) in the United Kingdom are examples of such an agency.

Subsidized loans

Although public funding plays a prominent role in many countries, it does not cover all of the operating costs, so students have to be responsible for a fraction of the costs. For example, student fees accounted for 20% of total operating costs in Singapore in 1992 (Selvaratnam, 1994). In order to ensure that no deserving student is deprived of higher education because of a lack of financial support, many governments offer student loan schemes, such as the Tuition Loan Scheme (TLS) in Singapore that cover up to 65% of tuition fees. Students can repay the loan within a 20 period after graduation.

Student grants and voucher

In order to give students more choice in education and to incorporate market mechanisms into higher education, some governments offer grants or vouchers. With grants and vouchers, students can make their own curricular and institutional choices. Another goal of such student-centred funding is to increase competition among institutes so as to provide incentives for institutes to improve quality and efficiency (Albrecht & Ziderman, 1992; West, 1997).

Tuition fees

In China, tuition fees have been increased substantially since 1990. The average tuition fees in many institutes were between 25 and 30% of recurrent costs in 1995 (Zhang, 1997). Hong Kong imposed uniform fees across all public institutions, and fees cover 18% of recurrent costs. In Singapore, for arts and social sciences, fees were increased from 10% of recurrent cost in 1986 to 20% in 1992 (Selvaratnam, 1994). In Australia, the tuition fees and charges, including Higher Education Contribution Scheme (HECS), accounted for 36% (CDEST, 2002). The tuition fees in the United States accounted for 19% (NCES, 1997).

Self-generated funds

With limited public funds, some institutes need to acquire other funding sources from productive activities. For instance, in the United States, the funds generated from sales and services accounted for 22.2% (NCES, 1997). In Australia, the self-generated income only accounted for 5.4% (CDEST, 2002). In China, the total self-generated funds amounted to 18.2% of universities' total revenue in 1992, such independent funds were generated from: university enterprises (3.7%), commissioned training for enterprises (2.3 %), educational services (1.1%), research and consultancy (1.3 %), logistic services (0.7 %), donations (0.8%), student tuition fees (4.6%), and other funded activities (3.7 %) (World Bank, 1997).

External Aid

External aid for education has played an important role in many developing countries. For instance, in Indonesia, external aid came from three major external agencies: United Nations Development Program, World Bank, and Asian Development Bank (Wirjomartono et al., 1997). During the period of 1983-1988, external aid accounted for 11.1% of total educational budget, from which 48.4% had been used in higher education. In 1988-1993, external aid accounted for 12.1% of total education budget, from which 16.6% had been allocated for higher education. Higher percentage of external aid was recorded for Cambodia in 1994 where nearly half the Government budget for education was financed by bilateral and multilateral agencies (ADB, 1996).

Donation can also be regarded as a kind of external aid, but such funds are not stable and it accounts for only a small part of the operating revenue. For instance, in Australia, donations and bequests accounted for only 1.3% of operating revenue (DETYA, 1999). In China, donations contributed only 0.8 percent of income (World Bank, 1997).

Based on the funding sources and paths discussed above, a map showing the relationship between funding sources and funded institutes can be constructed.

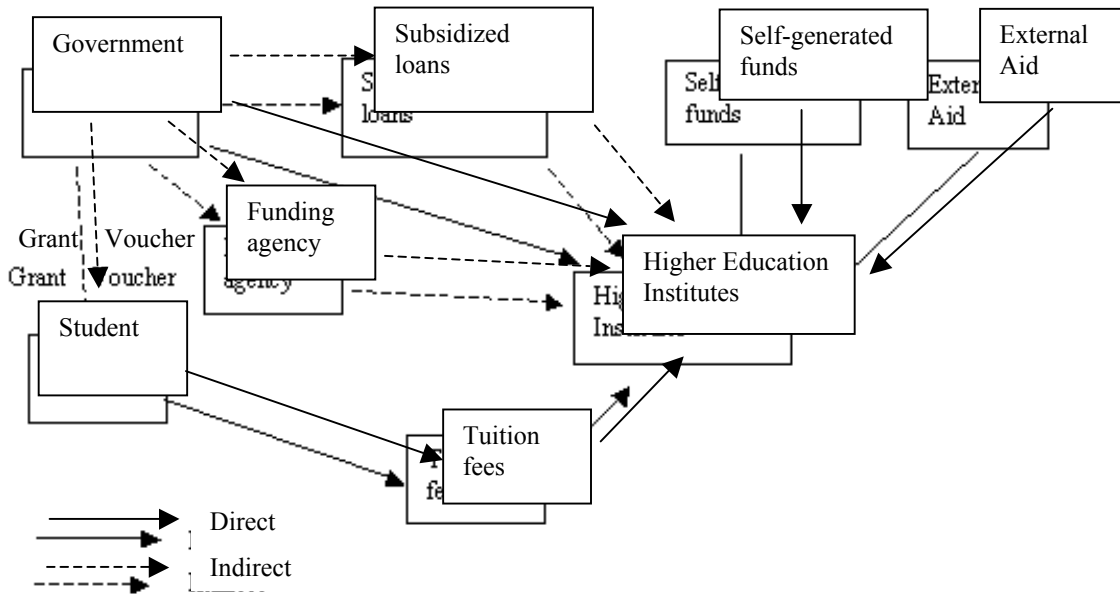


Figure 1. Funding sources and paths

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With various funding paths identified, one can further understand and investigate the sources of influence on the operation and organisation of institutes. From Figure 1, it can be seen that an institute may be funded from several sources. In general, the higher the dependency on a specific funding source, the more influence the funding source can exert on institutes. For instance, Singaporean higher institutions are largely state financed, so the Government can impose strong control over their policy direction (Selvaratnam, 1994). In Cambodia, the United States suspended most of its aid, including education funds, in 1997 in protest against what was perceived to be antidemocratic actions (Bray, 2002). The levels of aid to specific health and education projects fluctuate widely depending on the vagaries of Western donors (Burgess, 1997). For student-centered funding, institutes must maintain a certain number of enrollments to acquire sufficient funding. The only funding source that can give institutes more autonomy is self-generated funding. Such funds can be generated by, for example, commissioned training, consultancy, or contract research (World Bank, 1997), and charging tuition fees (Zhang, 2000). Pham and Sloper (1995) showed that Vietnam's College of Construction was able to earn an independent revenue that accounted for 28.3% of its total budget by taking on external contracts in 1991.

Funding Mechanisms and Models

After identifying funding sources and paths, a closer examination of the funding mechanisms is appropriate. Some governments may package a funding mechanism into a model, such as the Taximeter-model in Denmark, Relative Funding Model in Australia, and Financial Rebalancing model in Hong Kong. Different funding mechanisms may have different impacts on the behaviour of higher education institutions. Thus examining the funding mechanism can provide a basis for understanding government's attitude towards and goal for higher education.

Australia has adopted the Relative Funding Model that is a normative allocation model. Student numbers is one of the key elements in calculating the funding amount. If it turns out that the number of student units taught is lower (at least 2%) than the number of funded student places, this may result in a reduction of funds allocated in the next academic year. If it turns out that the number of students exceeds the target number set by the ministry, an institute will be paid the amount that is about 40% of average tuition costs (DETYA, 2000). This arrangement can introduce competition for students, and at the same time reduce government subsidies.

Denmark has adopted the Taximeter-model. The fund allocated for teaching is based on a unit-cost principle that accounts for, on average, one third of total revenue an institute will receive. The number of students that pass examinations determines the available budget. Universities do not receive compensation for students who fail or do not take their examinations. The scheme is to encourage institutes to be more productive in producing graduates rather than focusing on increasing student enrollments.

In England, higher education institutes are funded by two main sources: block grants and tuition fees. Block grants are largely determined by the formula set by the Higher Education Funding Council for England (HEFCE). In general, the formula is based on running cost. For example, laboratory-based subjects received more funding than non-laboratory-based ones. Part-time students receive only 50% of grant for a full-time student, as their learning activities are relatively less than full-time students. Institutes in London get more grants due to, for example higher living costs (HEFCE, 2002).

China introduced significant reforms in higher education finance that covered financial decentralization, new funding mechanisms and resource mobilization (World Bank, 1997). Before the reforms in the 1980s, almost all the funding was exclusively from the government, and funds were allocated according to the unitary State budgetary plan. In the plan, historically based adjustments were adopted and unused funds had to be returned to the government. Such a system provided no incentive for efficiency gains and improvements. With financial decentralization, the central government has delegated financial responsibilities to provincial governments and line ministries to increase flexibility. With the new funding mechanisms, the line item budget has been replaced by a block grant, letting institutions decide how to spend the money, and institutes can retain unspent funds. With resource mobilisation, institutes have been encouraged to generate their own revenue and to charge tuition fees so as to reduce the over-dependence on Government funds. Other than releasing the fiscal burden from the public funds, another goal of the reform is to encourage institutes to make innovations and develop their own skills to meet the developmental needs of the changing society (World Bank, 1998).

In Singapore, higher education institutes are mainly state funded. After the middle-1980s, the Government decided to shift the funding from largely government-funded towards cost-recovery through tuition fees (Selvaratnam, 1994), the target was to provide public funding to cover the subsidy level ranging from 75% - 84% for undergraduate courses (NUS, 2001). However, in reality, the tuition fees have risen just 1.64% for the year of 2001-2, whereas the subsidy for universities has risen 10% for the same period (Ministry of Finance, 2001).

In Hong Kong, the current funding for higher education is similar to the one that is adopted by the HEFCE in England. The funding sources include grants from University Grants Committee (UGC) and tuition fees. The grant for teaching is primarily related to student numbers; it is calculated by taking account of the distribution of students among different disciplines, different levels (i.e. degree, sub-degree etc.), different modes (i.e. part-time, full-time etc) and study subjects (laboratory-based and engineering-based). In 2002, the UGC produced a report of Review of Higher Education that suggested a new funding model named Financial Rebalancing. One controversial point in this model is that the major element for calculating the funding amount is still the student enrolment number, but students can freely move among all UGC-funded universities after their first year of study. Although the word 'voucher' has not been used in the report, this Financial Rebalancing Model is a 'virtual' voucher system as it proposes monies move with students (UGC, 2002a).

Many countries use funding models and formula to determine the fund allocation. However, in Germany, the funding allocation is based on institutional budget requests in a process of budget negotiations. The starting point for budget assessment is the amount an institute received in the previous year.

Funding models and mechanisms can be analyzed through different dimensions, Albrecht and Ziderman (1992) had identified three main criteria: performance-based, cost-based and negotiated. Other dimensions include input-orientation and outcome-orientation (Jongbloed and Koelman, 2000), demand-side and supply-side (Kaiser et al., 2001), performance-basis and unit-cost-basis (Johnstone, 1998). From the funding methods discussed above, it has been found that student enrollment (that is input-orientation) is an essential element in many funding models. Very few countries use performance as a major criterion. As almost all institutes receive funding directly from governments or funding agencies, public authorities maintain a strong influence on institutes through funding negotiations and controlling student intake quotas. Block grants are commonly used in many countries, but they can only increase the flexibility of internal allocation of funds; they do not provide institutes with enough autonomy to decide their own directions. Moreover, some governments are trying to reduce their fiscal burden by increasing student tuition fees and encouraging institutes to seek more self-generated funds.

There is often a discrepancy between the way in which funds are supposed to be allocated and the ways in which they are actually transferred (Albrecht and Ziderman, 1992). Different funding mechanisms have different effects in different facets of operations of institutes.

Effects of Funding Mechanisms

The type of funding mechanism adopted will have different effects in different facets of the operation of higher education institutes, such as equity of student access (Jencks, 1970; West, 1996; Witte, 1996), autonomy of institutes (Geuna, 1998; Karmel, 1991), influences from funding sources (Albrecht and Ziderman, 1992), competition among institutes (Sparkes and West, 1998; Parry, 1997), stability of institutes (Dowds and Hudson 1999; Harman, 1999), responsiveness to students and labour market demands (Jongbloed and Koelman, 2000), quality of education (West, 1996; Albrecht and Ziderman, 1992), and the fiscal burden of the government, tax payers and household (Zhang, 2000; Johnstone, 1998). All these effects are discussed next.

Student access

Although the general worldwide opinion has now swung in favour of fees and fees have been increased substantially, many governments offer various loans and other mechanisms to protect the poor (Albrecht and Ziderman, 1995; Tilak, 1997b). Without the problem of tuition fees, student intake quota may be a major obstacle that keeps students away from higher education. For example, in Hong Kong there were only 14,575 first year degree places offered in 2001-2002 (UGC, 2002b), but there were around 130,00 students who finished 5-years of secondary education in 2002 (HKEAA, 2002).

Autonomy

As public authorities are the major sources of influence, they can determine the level and scope of control. Controls can be channelled through the negotiation of budget, contract management, and student intake quotas. Such direct government funding may impose a centralized and rigid control over institutes (Albrecht and Ziderman, 1992). Some public authorities regard block grants as a form of autonomy, but it only increases the flexibility of internal funding allocation. To gain more actual autonomy, increasing self-reliance funding enables universities to pursue diverse missions and meet varying community needs (Kaiser et al., 2001).

Influences of funding sources

For most countries, funding from public authorities accounts for at least 50% of total revenue that institutes will receive (for example in Denmark and the United States), and over 80% is not uncommon (China and India). The revenue from other sources, such as student fees and self-generated funds are relatively limited. Even though in some countries, tuition fees may account for around 20%, but as public authorities may have control over the student intake quota, so the government or public authorities still maintain a strong influence on higher education institutes.

Competition among institutes

Many countries have adopted the close-ended and distributive funding methods, that is a fixed amount of funding has been determined for the total public funding for higher education, and the outcomes of the funding formula are used to determine what part of the total public funds available are allocated to particular institutions.

With the distributive funding method, institutes have to compete for funding, but such competition may not improve education quality due to the fact that the assessment of quality and performance may be based on just promises (contract or profile) and not on results. This point will be discussed later.

Stability of institutes

Although many factors, such as student enrolment numbers and quality, have been included in the negotiation or calculation of fund allocation, stability of institutes are often a major concern for many governments. This can be explained by the fact that the budget amount of a previous allocation to an institute is often one of the major starting points in calculating the

new allocation amount. Thus historically determined or incremental budgeting can be found in many countries such as United Kingdom and Germany.

Quality and Performance of education

Almost all countries have included education quality and performance into their budget plans. However, quality and performance can be interpreted in various ways, such as contribution to the economic development of the country in China (World Bank, 1988) and number of student passing examinations in Denmark (Kaiser et al., 2001). Moreover, quality and performance can be assessed by results or just by promises. For instance, in Tennessee, institutes earn part of the public funding through a high score on performance indicators. These indicators comprise the judgment of stakeholders like students, alumni and employers, whereas in some other countries, such as in Germany and France, the quality is presented in a contract prior to actual budget allocation.

Responsiveness to market demands

A dilemma for many governments in funding higher education is how to bring the highest benefits to students and to meet the labor market demands without setting detailed guidelines of what institutes should do, which leads to the discussion of demand-driven funding. The core idea of demand-driven funding is that money moves with students.

Friedman (1995) proposed the introduction of vouchers in education funding. Although it was intended for primary and secondary education, it has attracted much discussion and debate worldwide about its introduction into higher education funding. Voucher systems have a strong market orientation element in them. That is, each institute makes their own decisions to increase student enrolments so as to earn more funding. In order to attract more students, some of the more natural moves may be towards improvements of education quality and the development of study programs that meet labor market demands (Albrecht & Ziderman, 1992).

Voucher systems have been proposed and advocated by many educationalists and economists since its introduction. For example, Karmel (1991) pointed out that student-centered funding (such as education voucher) can promote institute autonomy. Zhang (2000) identified four main contributions of vouchers: (1) equal right of choice in education; (2) improvements of quality and efficiency; (3) ultimate utilisation of the limited public funds; and (4) private institutions have the equal right to get public funds. In some countries, plans were made but those plans were not submitted or implemented due to the high level of resistance from the higher education field to the far-reaching proposals. For instance, a consultant team raised five "education voucher" schemes to the Ministry of Education of Finland, but the government and society did not give a positive response (Ahonen, 1996). The Australia Government turned down the student-centered funding suggestion proposed by the West Committee in 1998 (Harman, 1999).

Fiscal burden

As mentioned in a previous section, rapid student growth places a heavy pressure on the fiscal burden of many governments. This may be the main reason why many Governments increase tuition fees charged and at the same time encourage higher education institutes to generate their own revenues. For instance, Singapore and Hong Kong have increased the tuition

fees to cover around 20% of total operating cost, and in China, the total self-generated funds amounted to 18.2 percent of total revenue in 1992. Other than increasing fees and self-generated funds, some governments reduce the fiscal burden by decreasing the student unit cost; that is paying the same amount of fund to institutes but requesting them to enrol more students. United Kingdom is one example of this strategy.

Stakeholders of higher education finance

After identifying the funding sources and paths, stakeholders of funding mechanisms can be distinguished as supply-side and demand-side. The supply-side stakeholder refers to institutes that get money from public authorities, the demand-side stakeholder refers to students that get the money from public authorities and buy teaching activities (Kaiser et al., 2001). There are many research studies on the evaluation of funding mechanisms, but very little research has been undertaken on the opinions and attitudes of stakeholders from the supply-side and demand-side. Without input from these stakeholders, a funding mechanism might not function as what it is supposed to. For instance, the German Government hopes to enable students to select courses that best suit their study needs by allowing them to decide about enrollment for university courses, however, 66% of students prefer to study at a university that is close to their home town, 47% make decision based on private relationships, one third take the environment of the university into consideration, and only less than one third consider factors related to their studies (Kaiser et al., 2001). Therefore, without a study of the perspective from the two stakeholders, it might lead to a serious discrepancy between the goal and the actual result.

A Model for Further Investigation

In order to incorporate opinions and views both the supply-side and demand-side stakeholders, a conceptual model is suggested in this study to achieve this.

As supply-side and demand-side might have different concerns about a funding model, for instance supply-side might concern about autonomy in internal funding allocation, and demand-side might concern about the freedom of choice of study programs, so the first step of the model is to identify two sets of concern, one for the supply-side and one for the demand-side. With these two sets of concern, their opinions will be collected and analysed. A proposed funding model will be then worked out. This proposed funding model would be presented to the supply-side and demand-side for further opinions. With their input, an ideal funding model will be worked out.

Conclusion

There are various reasons for higher education funding reform, but fiscal pressure and education performances seem to be the major reasons. Stability of institutes and education quality are common concerns for many countries. Both direct and indirect funding sources have been identified. Among these funding sources, the main source worldwide is still predominantly by public government funds. Due to this fact, the public authorities still maintain a strong influence on higher education institutes.

There are a variety of funding models and mechanisms. From the funding methods discussed in the paper, several points have been observed: (1) student enrolment is a common essential element, only a few use performance as a major criteria; (2) public authorities have a strong influence on higher education by controlling intake quotas and fund allocations; (3) block grants are commonly used but they only provide the flexibility of internal allocation of funds; and (4) stability and education quality seem to be the fundamental goals of most funding methods.

Indirect funding models have been used extensively in the form of student grants and loans, but very little use has been made of vouchers. Voucher model has been discussed for over a half century. Many researchers, especially the educationalists and economists, have discussed and promoted the voucher system due to its positive functions and effects. However, very little research has been undertaken on the opinions and attitudes of stakeholders from the supply-side (universities) and demand-side (students). It is suggested that further research in this area should be explored so that the debate about the voucher system is more informed and complete.

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