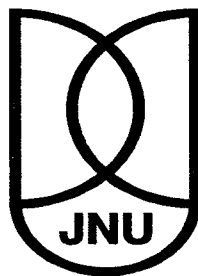


**INFORMATION ASYMMETRY IN HIGHER EDUCATION
MARKET: A CASE STUDY OF TWO ENGINEERING
COLLEGES OF WEST BENGAL**

*Dissertation submitted to Jawaharlal Nehru University
in partial fulfilment of the requirements
for the award of the degree of*

MASTER OF PHILOSOPHY

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DECLARATION

I, Binay Kumar Pathak, do hereby declare that the dissertation entitled "Information Asymmetry in Higher Education Market: A Case Study of Two Engineering Colleges of West Bengal" submitted in partial fulfillment of the requirements for the award of the degree of Master of Philosophy has not been previously submitted for any degree of this or any other university and is my original work.

Binay Kumar Pathak
BINAY KUMAR PATHAK

CERTIFICATE

We recommend that the dissertation be placed before the examiner for the award of the degree of Master of Philosophy of this university.

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Binay Kumar Pathak

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1. Introduction and Background of the Study

1.1 Indian Higher Education System: An Introduction

India at present is considered as a growing economic power all over the world. In recent years the country which has opened her doors to foreign investors has been experiencing high rate of growth¹ led by the booming industries, ever expanding consumer and capital markets and a flourishing service sector. India's service sector, namely Business /Knowledge Process Outsourcing, is reaping the benefits of skilled manpower and has been showing off-shoring trends. Not only at home but India's skilled manpower is known for its prowess around the world also. To be in competition affluent Indians are spending a lot on education at home as well as in sending their wards abroad. But this is a very small proportion of total population of India. The greater proportion lies on the other side of the coin, still deprived of even basic education. The best graduates from pockets of excellent institutions compete successfully in the world job market, but unemployment at home is a reality for many. While a few excellent institutions are producing best graduates capable of competing anywhere in the world, a host of substandard institutions are leaving their graduates helpless in the job-market. "Indian higher education seems like an enigma enveloped in contradiction. Pockets of excellent teaching and research institutions are surrounded by a sea of substandard institutions" (Altbach, 1993). Apart from the standard of different institutions of higher learning, the access to higher education is also unevenly distributed. In India the participation rate in higher education is nearly 10 percent as the Eleventh Plan seeks to increase the rate to 15 percent by 2012. Altbach (2008) also puts the proportion of age-group² attending universities at 10 percent, half the proportion in China and well below the rate in most rapidly developing and middle-income countries. With a small proportion of Indian population engaged in higher education, the contemporary focus is on the issue of access to higher education.

¹ It is feared that the impressive growth may be jobless, ruthless, voiceless, rootless and futureless, and exclusionary in nature (Tilak, 2007, UNDP, 1996).

² Generally taken from 18-22 years of age.

With the third³ largest higher education system in the world, India is toiling hard to address the disparity in access to higher education. Higher education has been expanded to meet the growing demands and address the issue of access. The demand for higher education is rising at a faster rate as education replaces land to provide enduring economic security. (Hashim, 2007). To meet the increasing demand for skill and knowledge, Indian higher education has grown drastically to be among the largest education system in the world. In post independent India, higher education has expanded rapidly, and the expansion until the mid 1980s has been mostly public in nature (Tilak, 2008). The government not only supported higher education by supporting universities and colleges, but also took over the responsibilities of running the institutions set up through the private sector. After the 1980s, the rising unmet demand relevant to needs of business and industry forced the state to allow the entry of private enterprises in the area of higher education (Agarwal, 2006). To meet the increasing demand of skilled manpower, professional education got an impetus to grow. The growth in professional education from the time of independence is perhaps even more dramatic. From a base of almost zero professional education, India has grown to have fourteen⁴ Indian Institutes of Technology (IITs), six⁵ top level institutes of management, known as Indian Institute of Management (IIMs), 1600 colleges of engineering, technology and architecture, 2000 medical colleges, 1700 teacher training colleges and 2600 other professional and technical institutions in areas comprising agriculture, law, management, computer applications, and information technology (Tilak, 2008). This enormous growth of capacity is a result of an upsurge of both private sector and public sector.

But the participation of private parties in education is not totally a new concept in India. Since the days of British rule private Convent Missionaries have been running schools and colleges in different parts of India. Several philanthropic trusts and organisations

³Largest in terms of enrolment after China and United States of America. In terms of number of institutions, India is, at present, the largest higher education system in the world (Agarwal, 2006).

⁴ Including the nascent ones, starting their session from July 23, 2008. By the next year the number will be 16. (The Business Standard, 17July, 2008).

⁵ The seventh IIM is to be set up in Shillong as Rajiv Gandhi Indian Institute of Management.

Box-1 Privatisation of Higher Education in Bihar in 1970s

In the 1970s, setting up of private colleges was a gainful business in Bihar. Given the large unmet demand for higher education, colleges were set up without proper infrastructure and facilities in the hope that the government would soon take over the responsibility of running them. Between 1975 and 1978, the state government took over the responsibility of running 286 private colleges, whereas in the thirty years prior to that only 17 private colleges were taken over by the state government. Teaching in such colleges became a much sought after source of employment for mediocre housewives and indolent heirs of the power elite. Given the fact that such teachers got permanent tenures and government pay scales once government took over, this mode of employment as teachers became available for a price. This proved to be a de-motivating factor for the deserving ones who consciously opted for teaching as a career. Parasitism, patronage and sycophancy became accepted practice in the academic world. This killed private initiatives and led to retreat of community from an area, which rightly belonged to them.

Source: V.S. Jha Committee Report quoted in the Times of India on 21 March, 2005

running educational institutions can be located in various parts of the country. Even after Independence a good number of educational institutions have been established by the private sector. Some of the private educational institutes like Birla Institute of Technology and Science (BITS), Pilani have established themselves as top quality institutions. Barring a few top quality private institutes, most of the private institutes are doing just business and playing with career of thousands of students. They operate like a firm and through their cost-minimising behaviour, degrade quality of higher education. Operating on the neo-classical line of thought of 'getting prices right', most private institutes employ unethical practices to lure students and earn as much as they can. "Given the undesirable practices that the private colleges follow, they cannot be regarded as a desirable, alternative and reliable form of funding" (Tilak and Varghese, 1991), as they have been conceived of in recent recommendations of bodies like National Knowledge Commission and HLGSS. The functioning of the private sector has been under serious doubts. In West Bengal, the malfunctioning of the private engineering colleges has led the government to pass the West Bengal University of Technology (Amendment) Bill, 2008, to empower the West Bengal University of Technology to control the functioning of the private engineering colleges.

1.2 Policies on Higher Education in India

India, whose education sector is her source of advantage in this globalising world, never had a full-proof policy for higher education. Though, National Policy of Education had been formulated in 1968 and 1986⁶, higher education seems to have been given less importance as there was no road-map suggested for the development, support and regulation of higher education; only recommendations have been made. It is probably the case that higher education system is beyond the control of government in terms of basic change (Altbach, 1993). The system responds to market forces in society, to a variety of stimuli-including government at several levels, politicians representing a wide range of constituencies, and highly organised special interest groups” (Kaul,1988). The UGC Chairperson S.K.Thorat while delivering his Nehru Memorial Lecture in 2006 mentioned five principal goals for higher education as envisaged by the National Policy of Education 1986. These goals are: greater access, equal access (or equity), quality and excellence, relevance and promotion of social values. But there seems to be no road-map to achieve these goals. Different recommendations and programmes implemented from time to time have taken the shape of policies in the education sector. In the case of Higher education the situation is grave as more focus is on elementary and school education, as they are receiving more funds and attention in terms of enrolment. The Minister for Human Resource Development himself has admitted that “Higher education is a sick child of education in India”. There have been some efforts on the part of the government to cure the ‘sick’ higher education in recent past. Setting up of the National Knowledge Commission in 2005 by the Government of India reflected some concern with regard to the designing of future strategy of the higher education. The Commission has recommended for expansion of higher education system and to take support from the private sector for this purpose. The same consideration for expansion can be seen in the Eleventh Five Year Plan Draft. Along with expansion issues of equity and regulation have also been addressed by the recent OBC (Other Backward Castes) Reservation Act, 2007 and setting up of the Yashpal Committee to evaluate the working of the UGC and

⁶ Modified in 1992.

AICTE (All India Council of Technical Education), the main regulatory bodies in higher education.

1.3. New Economic Policy and Higher Education sector

The dominance of economic reforms in policy making has brought about a shift in funding of higher education in India. The liberal economy of India has enough scope for the private players to operate in the education sector in a situation where public support to social sector is going down to meet fiscal obligations. The latent entrepreneurial skills of Indians coupled with diversification of existing enterprises are finding education as an easy venture to excel. The policy of economic reforms has been facilitating the growth of private institutes of higher learning. This is evident from the recommendations of HLGSS (2008) for the expansion of education sector by the growth of for-profit educational institutes to meet the growing needs of skill-based service sector. No doubt India has competing edge over other countries in terms of her skilled manpower. Several private professional institutes have been set up in almost all states of India. These professional colleges deal in Engineering or Management or both of them. The number of such colleges is on increase and the market in which they are operating is spreading. Apart from domestic private parties, some foreign universities are also entering and trying to open their shops in India which might be the largest single market for them (Altbach, 2008). Altbach mentions the motivation of extracting profit by offering academic programmes in fields that are in high demand, behind the entry of education companies and foreign universities like Laureate Education Inc⁷. Moreover, some countries, including the United Kingdom and Australia, have a national policy to earn profits from higher education exports. Most of these institutions belong to lower tier of hierarchy of institutions of their homeland. These institutions are delivering education to the society with the sole objective of making profit. Generally they are averse to invest in high-cost academic infrastructure rather to minimise cost to earn as much as they can. Similarly, domestic private parties in higher education are operational mainly in the fields which are in high demand such as management, engineering and other professional courses. They

⁷ Laureate Education Inc. started a university in Andhra Pradesh but pulled out due to complex regulatory environment (Altbach, 2008).

can seldom be traced investing in high-cost infrastructure such as advanced research facilities in their fields of operation itself. They are surely in the market to earn. Globalised Indian economy is becoming suitable breeding ground for profit-seeking higher educational institutions.

Globalisation or Internationalisation of Higher Education

“Globalisation, linked with market liberalisation, has both pressured and encouraged governments to seek more efficient, more flexible, and more expansive education systems. Privatisation may be one response to these changes” (Belfield and Levin, 2002). Apart from privatization cross –border exchange of education is another response to the process of globalisation. Many Indian universities such as Indira Gandhi National Open University, Universities of Pune, Goa, Mysore, Delhi, Hyderabad and Viswa Bharti; and deemed to be universities such as BITS, Pilani have established their centres in foreign land (Prakash,2005). Establishment of branch campuses increased international marketing of curricula and programmes have been new patterns of globalisation of higher education whereas exchange of students and faculties has been an age-old practice. Some foreign universities have also set up their branch campuses in India either in collaborations with some Indian institute or university or of their own. The major difference in terms of exchange of higher education is from Indian side. While some of the top Indian universities are operating abroad, generally low ranking or lesser known foreign universities have shown interest to operate in India. The terms of trade is negative for India as far as the quality of higher education is concerned.

India has opened her doors not only for traders in education but also traders of other sectors. With multinational organisations either setting up their business in India or investing in Indian industries, the demand for skilled manpower is on rise in India. This has led to establishment of professional institutions across the country on one hand and craze for professional degrees among the Indian middle class on the other. The ongoing process seems to be creating three different classes of graduates --- those educated in foreign universities, those from costly private domestic institutions, and those from economically weaker sections studying in government funded institutions. Those who are

unable to afford costly education or are satisfied with the quality of education of government funded domestic institutions will opt for government funded domestic institutions, and thus will be suffering from adverse selection⁸.

The third effect of globalisation on higher education is evident from the Economic Stabilisation policy of International Monetary Fund and Structural Adjustment Policy of the World Bank. These agencies have directly influenced the reforms in various countries by providing specific loans for the purpose of enhancing privatisation of education in El Salvador, Indonesia, Mali, and The Dominican Republic (Belfield and Levin, 2002). These multilateral lending institutions now customarily include education reforms as part of their package of economic and state reforms (Carnoy, 1995; Corrales, 1999). As a result of these policies public expenditure on higher education in India declined till a couple of years ago—in terms of relative importance⁹ and in public expenditure on higher education in real prices-total as well as per student. The government expenditure on higher education declined to 0.37 in 2003-04 from 0.46 in 1990-91 as a percentage of GDP (Sharma, 2005). Policy prescriptions, particularly from the World Bank, have argued against the expansion of higher education, and for the exclusive focus on primary education (Tilak, 2005). As a consequence, developing countries like India are forced to lag behind the developed countries in the field of higher education so that trade in higher education may be facilitated. Thus, for India globalisation of higher education has facilitated the privatisation of higher education on one hand by cutting public expenditure on it and encouraging the foreign universities to enter on the other.

Moreover, some super national organisations like, EdInvest and the International Finance Corporation provide financing opportunities for public/private partnerships in education. In Karnataka, a good number of Grant-in Aided colleges are running on private public partnership basis (Tooley, 2005). The public-private partnership colleges are based on the consideration of higher education as quasi-market.

⁸ Discussed in chapter 2.

⁹ In terms of proportion of GNP or of total government expenditure (Tilak, 2005).

1.4. Changing Patterns of Financing of Higher Education

The New Economic policy regime has ignited a debate over provisions of funding - public or private in higher education. The debate has its roots in the market versus government debate. The pro-market school puts government as an evil in economic sphere and advocates for unrestricted marketisation and letting the prices rule the economy. This 'evil government' school of thought is the culmination of neo-classical 'getting prices right' and 'trade is enough' lines of arguments (Adelman, 1999). With the shift in paradigm of development, from Keynesianism to neo-classical or neo-liberal, it is argued that market, meaning the private sector, can do everything for everybody. Education, especially, higher education also falls in the changing paradigm of development. The government is said to be inefficient due to the inefficient work culture of the staves in the public sector. Kapur and Mehta (2007) feel that in India the enemy of academy has been the opportunism and supine attitude of boards of trustees and university administrators. The marketisation is argued to be efficient as it is supposed to cater to the choices of the consumers and leaves no room for inefficient attitudes of the providers. The sellers in the market have to compete for the consumers who are the supreme authority to regulate the system. European countries like, United Kingdom and Australia are following the American path of marketisation of higher education, by allowing universities to compete for students and to charge variable fees. Even, one of the torch-bearers of communism, China has introduced the cost-sharing and cost-bearing formula in higher education by making tuition fees compulsory which has traditionally been fully supported by the government (Sanyal and Martin, 2006). But, in most contexts market principles have been applied against a background of an established public education service managed in some way through the apparatus of the state (Bridges and Jonathan, 2003). That is to say that marketisation of education is not possible either fully or partially, if the governments do not take part in the basic infrastructural development of the sector and support the market through the policies. The market of higher education is a 'quasi-market' in fact. It runs on the base of the structure of public sector and reaps the benefits of market principals such as efficiency. There is certainly a distinct role for the government in education even if market operates to any extent-quasi or complete.

When the concerns of equity and social justice come into the picture, markets appear to be struggling as they fail to address these issues.

1.5. Role of Government in Higher Education

Funding and Regulation of Higher Education are the traditional roles of the government in higher education. These two roles of the government are being challenged for the smoother expansion of private sector in higher education. Funding of higher education by the government is seen as a hurdle in the path of the private sector to expand in higher education. On the other hand, regulation of higher education is criticised for being impediment in the path of free operations of the institutions and is seen as an attack on autonomy of institutes of higher education. When market fails to function efficiently, government needs to intervene through the regulatory mechanism.

1.5.1 Government Expenditure on Higher Education

The public funding of higher education in India has been witnessing a downward trend in relative terms and the private sector is being encouraged by the changing policies. Armaity S. Desai, Chairperson University Grants Commission (1995-1999), was of the opinion¹⁰ that the Government neither considered higher education a ‘public good¹¹’ nor a ‘merit good¹²’. The debate over consideration of higher education as a merit good is behind the changing patterns of funding of it by the government. Those who say that the government need not bother about the provision of higher education expect people to spend themselves on pursuing higher education considering higher education a ‘private good’.

“For Indians, higher education has been the swiftest elevators to the pinnacles of modern Indian power and opportunity. This realisation coupled with the severe limitations of publicly funded higher education institutions and the greater purchasing power of the

¹⁰ As quoted by Yadav, 2004.

¹¹ Having characteristics of externality, non-excludability, and joint-consumption and non-rivalry in consumption.

¹² Goods in whose allocation consumer sovereignty fails to allocate properly, it merits to be publically provided.

middle class, means that Indians are ready to pay” (Kapur and Mehta, 2004). But the NCEUS¹³ (2007) has shown that the proportion of middle and high income class in India is just 23.3%. Even if higher education is the elevator to gallery of power and can be left for the private-provision, it will be exclusive to the one-fourth of Indian population. Being available to a small group higher education will surely be proved to be elevators to the pinnacle of power. The poor and vulnerable population which is nearly one-third of the total Indian population (NCEUS, 2007) cannot ever spend on higher education and will be deprived of higher education treated to be a private good. Based on this consideration of higher education as a private good, hike in student-fees, student loans and graduate -tax to recover expenditure on education are being advocated. Tilak and Rani (2002) in a study to examine financing of universities after economic reforms found that, in a sample of around 40 universities, there have been modest to steep increases in students’ fees of various types. The Eleventh Five Year Plan approach paper has proposed to popularise the students’ loans. These recommendations are focusing on private good aspect of higher education while higher education is a mixed¹⁴ good having positive externalities associated with it.

Externalities

Higher education has certain positive externalities linked to it. It makes oneself able to understand one’s worth and find suitable employment and spurs technological innovation and invention. There are dynamic externalities (Schultz, 1988; Romer 1986, 1990; Lucas 1988) and technological¹⁵ externalities attached to higher education. An individual after being educated not only gets personal benefits for being more productive but ones’ family stands to gain from one’s increased income, ones’ employer stands to gain from one’s enhanced productivity, ones’ society stands to gain from one’s informed and enhanced participation in societal activities, ones’ nation stands to gain from one’s active and informed participation in democracy and innovations and inventions one achieves in one’s life-time. Higher education deserves to be publicly funded on the ground of having

¹³ National Commission on Enterprises in the Unorganized Sector.

¹⁴ Goods having characteristics of both public and private goods.

¹⁵ Helpful in innovation and invention.

positive externalities attached to it as externalities cannot be attached with a price-tag to be charged. In the absence of a price-tag, market cannot offer efficient allocation of higher education. Though, Coase (1960) has stated that, if legal rights exist and rights are known to each concerned party, externalities can be internalised, but in case of higher education there is no exclusive rights to be benefited and the list of benefiting parties is too long to internalise the positive externalities associated with higher education. The market-mechanism cannot work in the absence of prices. Thus higher education should be publically funded exchequer, deserving to be treated as a public good.

At least higher education is to be treated as a quasi-public good (Tilak, 2005) which can be sold against a price but having positive externalities associated with it, other members of society cannot be excluded from the potential benefits accruing out of it. It is hard to exclude the non-payers from actual consumption or from external benefits of higher education. Given the positive externalities emanating out of higher education it can be argued that consumption of this good needs to be promoted. But people may not be aware of the potential benefits of higher education or education itself as evident from the fact that the enrolment decreases as the level of education increases (Table-I, Appendix). People may fail to judge the future benefits of higher education.”People could be ignorant of the benefits of education, or may not be appreciative of value of education, or may not be able to foresee the implications of their investment decisions in education and may be unwilling to investment in education” (Tilak, 2005). The same implies to higher education also. Thus, higher education deserves to be treated as some sort of mixed good, having positive externalities, whose consumption needs to be promoted through public provision of it.

Economies of scale

Like ordinary goods producing firm, higher education firms also generate economies of scale of large scale production. When more and more students get enrolled, average cost of providing education falls (Tilak, 2005). Particularly in higher education large scale costs need to be accrued for example University infrastructure, library, laboratory, scientific equipments etcetera Private providers will not invest in infrastructure needed to

build higher education system as they aim quick gain by providing marketable degrees or products (Altbach, 2008). Thus in a production process like higher education characterised with increasing returns to scale or economies of large scale production, it may be more efficient for the government to provide higher education (Colclough, 1996).

Equality of opportunities

To empower people, they need to be made self-reliant, confident and should be provided with all opportunities to be able to compete with the well-off members of the society. In this path, education for all seems to be the prior need. The Eleventh Five Year Plan approach paper mentions education as a most critical element in empowering people with skills and knowledge and giving them access to productive employment. When we talk of education for all, we should not pose limits on it as equality should not be labeled with limits. To empower the masses, education needs to be provided at all the levels of education. The Eleventh Five Year Plan approach paper accepts the need of access to higher education for all by stating that “access to high quality institutions is extremely important for equity since they provide opportunities for the poor and socially disadvantaged to advance them”. To ensure access to higher education to the masses, higher education needs to be publicly funded in a country like India having large pool of poverty. Blaug and Woodhall (1979) find that it is necessary to provide free education at all levels and also to subsidise students’ living expenses in post-secondary schooling so as to guarantee equality of educational opportunity. Only if the higher education is made available to all for free, then it can generate equality of opportunities. As efforts of bringing equality in access have been made by the policy of reservations, these can only sustain if there is public provision for higher education. Moreover, inclusive growth entails inclusiveness in education sectors itself (Government of India, 2006-07). Inclusive growth is the need of the hour to part the wide gap between the different sections of society so that all of us can reap the benefits emanating out of the growth process. To include the masses into the process of growth, education should be provided without imposing any criterion to access. The market in education imposes the criterion of purchasing power to access the education provided by it. Market does not assign weights according to equality of rights rather it assigns weights based on the purchasing power of

the consumer. The market or the private sector cannot provide equality of opportunities in the education sector.

Existence of imperfections in the market

Perfect competition is a myth (Grossman and Stiglitz, 1980). The market we face is generally imperfect in nature. When efficiency is linked with the operation of market, it is linked under the assumptions of existence of perfect competition. With perfect competition being non-existent, efficiency criteria of market principle becomes irrelevant. Even if efficiency is taken into account under market model, it is found that there is a possibility of existence of Pareto –superior¹⁶ outcome in the market for each degree of decrease in imperfection. Pareto efficiency is defined as the outcome or social state where (if and only if) there is no possibility of existence of any Pareto superior outcomes.

The higher education market is a typical representation of an imperfect market. Consumers fail to judge the qualities of higher education before they purchase as higher education is an experience good, whose production and consumption occurs simultaneously. From sellers' side, they tend to hide information or exaggerate or do nothing to help out consumers to judge the quality of product. In such an imperfect market situation it is hard to believe that market provision of higher education will be able to yield efficient outcome. This kind of imperfection of market is known as information asymmetry. "Information imperfections are pervasive in the economy: indeed it is hard to imagine what a world with perfect information would look like" (Stiglitz, 2002). With these asymmetries in information, market is expected to deliver efficient allocation of higher education where neither consumer sovereignty nor the demand-supply apparatus can work.

The private provision of higher education assumes existence of purchasing power with all potential buyers. Those without purchasing power are not the demanders. To be able to avail of the market of higher education with adequate number of buyers, student-loans are

¹⁶ A social state (X) is defined to be Pareto superior to another social state(Y), if and only if, it is the case that every individual in the society or the collective considers X to be at least as good as Y and at least one individual considers X to be better than Y.

advocated. The market for loans itself is suffering from the imperfection in the form of asymmetries of information. “Imperfections in capital markets and asymmetric information are possible justifications for the public subsidisation of higher education” (Arrow, 1993). Moreover, People may not prefer to borrow to invest in education, the gestation period of which is relatively very long and may not be ready to take risk of investing in education, the benefits of which are not certain. The other problem is offering collateral in the incomplete¹⁷ education credit market. Incomplete or Imperfect capital markets inhibit students from borrowing against the uncertain future returns of higher education. Problems of offering human capital as collateral, lead to under-investment in education, especially among the poor families (Tilak, 2005). To ensure socially optimum investment in higher education which is already been discussed as a mixed good for which public investment is must under the prevailing imperfections of market.

1.5.2. Regulation of Higher Education

The higher education sector in India is characterised with institutions seeking autonomy, degrading standards of institutions, mismatch between education and job-market resulting into mass unemployment, and a very small participation rate of the age cohort. Too little has been done to improve the curricula, course content and pedagogy of the main stream courses. The growth of private sector is aggravating the threats. Starting from the process of admission to the imparting of degrees, the private institutions are working in doubtful manner (Vaidyanathan, 2007; Tilak, 2008). The regulatory bodies in India have failed to ensure compliance with the norms they have set regarding the governance of institutions of higher learning, their autonomous functioning, the minimum standards for recognitions and sanctions of intake capacity and other norms of regulation. They have failed because of legal flaws emanating out of establishment laws of universities and these bodies themselves. The regulatory laws have to be amended to empower the regulatory bodies to control the sector of higher education. The government has this serious role to play in higher education even if funding of higher education is shared with the private sector.

¹⁷ Kodde and Ritzen, 1985

The regulation need to be tightened to check the degrading quality of education, to make the public institutions function accountably and to control the market failure in higher education.

1.6. Marketisation of Higher Education

The unmet demand for professional education and the mismatch between the education and job market are the factors leading to the growth of private professional institutions in recent years. Though the privatisation of higher education in India has been *de facto in* nature (Kapur and Mehta, 2006), it is being argued to be shown as alternative to subsidised system of higher education. Recent past has witnessed an attack on rationale of state subsidies as being debated in literature and in various rounds of WTO. Subsidisation of education is facing more attack as compared to general subsidisation. Higher education in particular has witnessed a drastic cut in government expenditure in line with these arguments as there has been a shift in funding from higher to lower levels of education in relative terms (Tilak, 2005).

1.6.1 Demand side pressure

In many countries education is seen as helpful in gaining social and economic advantages, thus increasing the demand of education (James, 1987). Moreover, in countries like India the rapidly increasing population is posing pressure on the availability of education. The growing consumerism and marketisation is “resulting into careerism and narrow framework of thinking” (Kumar, 2004). This leads to the demand for education especially professional education growing. To meet the ever-increasing demand for education, one easy way out for the struggling governments is to allow private-players or individuals to operate. These are pull factors of the privatisation of education. But this rising private sector in professional education is working in a way that sounds alarming. A good number of fake universities are in operation. Moreover, some institutions claim to be recognised by the authorities which themselves have no right to authorise. “Due to information asymmetry, many students do not know whether a university is a public one or a private one, whether it is full university or a deemed university, or even a legally constituted university or a fake university, and whether the

degrees offered by a private university are recognised by the concerned public bodies like University Grants Commission and the All India Council of Technical Education” (Tilak, 2008). The private players are cashing in the demand for professional education.

The partial privatisation of higher education by hikes in students’ fees, students –loans and other related mechanisms aim at balancing the responsiveness to demand for and supply of higher education. The provision for cross-subsidisation of courses by selling the most demanded and subsidising the less demanded is also argued. On this line, some universities have hiked their fees above recommended levels (CABE¹⁸, 2005) and some have started providing professional version of their general courses, if not providing professional course directly. This view assumes that the courses which are in less demand are the inferior ones but the case may be entirely opposite. For example, philosophy may be in less demand by the younger generation as compared to engineering but no educated person can undermine the importance of the subject where all disciplines finally merge. So short run demand cannot decide the fate of society in the long run. Market generally responds to short-run fluctuations in demand and caters to them only. Long-run objectives of society can only be fulfilled if higher education is publicly funded.

1.6.2 Pragmatic Arguments (Supply side pressure)

Resource crunch is being cited as one of the reasons for withdrawal of public spending on higher education. Murphy (1996) cites the decline in the quality of, and in some cases the reductions in funds available to, the public sector or the Government to fund education. These are the main factors influencing the privatization of education under the Stabilisation Policy and Structural Adjustment Programme of International agencies in many countries. These are push factors of the privatization of education. The perceived lack of quality of education is argued to be overcome by privatization (Belfield and Levin, 2002). In India, the Honourable Supreme Court in its verdict on T.M.A.Pai versus the state of Karnataka case has mentioned –“The state, with its limited resources and slow-moving machinery, is unable to fully develop the genius of the Indian people. Very

¹⁸ Central Advisory Board on Education

often, the impersonal education that is imparted by the state, devoid of adequate material content that will make the students self-reliant, only succeeds in producing potential pen-pushers, as a result of which sufficient jobs are not available". But these arguments do not fall in line as there are as many options available as one wants to generate resources for higher education. In India, salaries of Members of Parliaments have been increased and the recommendations of the Sixth Pay Commission are in line to be implemented in practice even during the financial crunch situation. In such a situation one can argue that resources for higher education can also be generated by the same means.

1.6.3 Efficiency

On the grounds of efficiency, public funding of higher education is said to be inefficient as social rates of return of education are lower than private rates of returns, so the public provision of higher education fetches less return as compared to the private provision (Psacharopoulos, 1994; World Bank, 1994). The concept and methods of calculating rates of return are dubious on the first instance. Societal rates of return figures lesser than that of private as societal benefits as externalities associated with higher education are not taken into account but total societal resource costs in terms of subsidies. To internalise externalities in the case of higher education is not possible as there is neither specific rights holder nor the externalities are identified specifically. Given the impossibility of calculating the values of positive externalities, private returns to higher education may outweigh the societal returns. Moreover, the private cost calculation does not take into account the correct market value of per head expenditure on assets like land and infrastructure. The income, including increments to it, generally taken for calculation of rate of returns may not reveal true income in case of undervaluation of productivity and lack of knowledge regarding other sources of income of an individual (Majumdar, 1983). Majumdar (1983) finds three basic faults with the rates of return analysis. These are- the rates do not imply alternative opportunities and they are not marginal and optimal. On the basis of an approach which itself suffers from severe criticism, private provision of higher education cannot be established as an efficient mode and public funding as an inefficient one.

1.6.4 Equity

Publicly funded higher education is helping only the rich and middle classes to access higher education (Psacharopoulos, 1977; Jimenez, 1987). Keeping these remarks into consideration, someone is forced to ponder over if under the regime of publically funded higher education only the rich and middle class have access to it, then under market provision where purchasing power determines the ability to use how can the poor and vulnerable will be able to access higher education? The defenders of the argument will find no answer. The arguments have their roots into the policy of International agencies like the World Bank which advocate for the targeted subsidy instead of giving general subsidy (World Bank, 1994). These are the bases from where the idea of student-loans has emerged. The argument also implies targeted scholarships as Rajiv Gandhi Fellowships are targeted towards Scheduled Castes and Scheduled Tribes in India. As has been discussed under the heading of Equality of Opportunities, to facilitate inclusive growth of the society, public funding of higher education in general is essential. Targeted subsidy may work but then it needs to be perfectly planned to identify all targets to be covered.

There are a good number of studies on financing of higher education and also on privatisation. The available literature focuses on the pros and cons of the government funding and private funding on the basis of certain arguments discussed above. Most prominent argument in favour of privatisation of higher education and against the government funding is the efficiency argument. The private sector supposed to follow the

1.7. Background of the study

The United Nation (UN) has designated the period 2005-2015 to be celebrated as UN Decade of Education for Sustainable Development (UNDESD). The goal of the UNDESD, for which United Nations Educational, Scientific and Cultural Organisation (UNESCO) is the lead agency, is to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. The programme

accepting the values of education in building the present shape and **future of the society** focuses on the creation of a just society by implementing education for all by 2015. The approach paper of the Eleventh Five Year Plan also accepts the necessity of inclusion of all into the process of education to ensure inclusive growth. Alongside these developments, recommendations of the National Knowledge Commission to expand the higher education sector with the help of the private sector and the recommendations of the HLGSS¹⁹ in favour of for-profit higher education institutions are also moving the rounds of consideration. These bodies have also expressed their displeasure over the functioning of the regulatory bodies like University Grants Commission and All India Council for Technical Education, perhaps because regulation seem to be an impediment in the path of smooth development of the private sector in higher education. Several committees have been appointed from time to time to evaluate the functioning of the regulatory bodies. A committee to evaluate the functioning of UGC and AICTE has been set up recently under the chairmanship of Prof. Yashpal. On one hand, the regulatory bodies are found to be not able to ensure the compliance of norms formulated by them and on the other, unrecognised private sector is spreading its business. Even the recognised private colleges are not following the rules or norms in their functioning. In West Bengal, the government has passed the West Bengal University of Technology (Amendment) Bill, 2008, to empower the West Bengal University of Technology to control the functioning of the private engineering colleges. Most of the colleges of the growing private sector have been engaged in malpractices and running their operations without proper infrastructure. In such conditions, market cannot offer freedom of choices, but can cheat the consumers.

Though there emerges a certain trend of expansion of higher education worldwide but mostly private sector is being favoured. The private sector is supposed to follow the principles of market and is taken to be efficient whereas the government sector in higher education focusing on equity is supposed to be inefficient as efficiency is opposed to the idea of equity (Hillman, 2003). The so called efficient market serves to the holders of purchasing power only while the government assigns weights to each and every

¹⁹ High Level Group on Service Sector headed by Mr. A. Hoda.

individual on the basis of their rights as citizens. The purchasing power acts as the dividing factor. Clearly, private provision is not meant for equitable access as the market principal assigns weight to purchasing power not to the equality of power as generally done by the government. This study leaves the equity argument and takes the efficiency argument into consideration to examine the functioning of private sector in higher education.

The market functions on the principle of consumer sovereignty to which consumer is the supreme to choose for buying and in the process the market is led to equilibrium. Only when the consumer is satisfied with the choices made and engages into optimum exchange the market reaches its optimum. The choices of the consumer are dependent on the information available to him or her. The justification of choices comes from the justification of information. Under the conditions when the consumer does not have the requisite information and is to take decision to choose to engage into exchange in the market, his or her choices are not optimum and therefore not efficient. Under such conditions, the consumer is bound to take decisions to reach at sub-optimum choice resulting in inefficient exchange. In such cases, the market fails to produce efficient outcomes, as the efficient outcome is the only one Pareto –optimum point while there may be several sub-optimum points of equilibrium under various levels of distorted choices. Thus, information asymmetry, lack of information regarding the products sold by the sellers, is the key element behind distortion of choices and leading the markets to sub-optimal equilibriums.

The International Institute of Educational Planning in its booklet authored by Belfield and Levin (2002) mentions choices of students, the consumers in the higher education market, to be one of the determinants of efficiency of privatisation of education. Very few studies have focused on this criterion in the field of higher education. Some of the studies using the framework of choice in higher education are by Kane (1999), Ramsden (1991), Astin (1991), and Sappington (1991) in U.S. higher education, Oktay (2006) in Turkey, Connor et al (1999) and Carrico et al (1997) in United Kingdom. There is perhaps no study in India of this kind relating to choice under the existence of information asymmetry and higher education. Some works as Tilak (2008) refer to the existence of the problem of

information asymmetry among the students but there is a gap in the literature in as far as the application of theoretical background of information asymmetry is concerned. This present study seeks to fill up the gap to an extent possible. The study will look into the choice patterns of engineering students of two colleges located in the Bardhaman (Burdwan) district of West Bengal to assess the existence of information asymmetry among them. The study seeks to evaluate the functioning of the market in the field of higher education within the theoretical framework of information asymmetry.

1.8. Scheme of Chapterisation

The present chapter, the first one, presents the background of the study with the discussions on the development of idea behind the proposed study. The chapter outlines the theoretical and contemporary factors behind the debate over private provision of higher education in India and draws the objective of the study from the discussion.

The second chapter will discuss the theories of information asymmetry and different facets of the problem. The chapter will introduce concepts and present the existence of information asymmetry in the education market particularly in the higher education market.

The third chapter will discuss the rationale of the study, research questions and objectives of the study and analyse the data collected from the students of engineering colleges and present the findings of the analysis.

The fourth chapter will present a discussion on the regulation of higher education in India. The chapter will present a link between the data analysed and the changes to be made in the regulatory structure of higher education.

The fifth chapter will be the summary and findings of the study along with limitations. The chapter will seek to suggest some measures to sort out the problem of information asymmetry and regulation of higher education with specific reference to the Indian higher education system.



2. Information Asymmetry and Higher Education Market

Freedom of consumer choices is the main connotation of market principals. On the basis of this the efficient allocation of resources is claimed through the marketisation. Choices can be made on the basis of information made available to the consumer. In a market where information flows are free, consumer choices are supposed to be more efficient whereas, in a market where information flows are not perfectly free, choices become distorted, leading towards inefficient outcomes. The market characterised with imperfect flows of information is said to be suffering from information asymmetry which is a characteristic feature of modern market. This chapter will discuss the different theoretical aspects of information asymmetry with illustrations from ordinary goods market and education market.

2.1 Conceptualisation of Information in Economics

Economic actions have a semantic dimension. Buying and selling implies not just an exchange of goods, but also an exchange of information (Birchler and Butler, 2007). In classical or neo-classical economics, information has been assumed to be perfect, that is, known to each concerned party. Assumptions like homogeneity, perfect mobility, free entry and free exit reinforce the perfection of information. Analytical concepts like the demand curve, short-run versus long-run cost functions and imperfect competition; bargaining and game theory; Keynesian disequilibrium, in macro theory as an informational disfunction of the decentralised market economy; interpretations of unemployment as specialisation in search for better opportunities; money as an institution economising on knowledge; determinant of demand for “liquidity” and of speculative behaviour; adaptive expectations and other learning models; efficient flows of information within multi person organisations, all presuppose information (Hirshleifer, 1973,p32). This can be observed in the light of the assumption of perfect information. The perfectly competitive market runs on the assumption of perfect information among producers and the buyers. The perfect information includes information on prices as well

as information about relevant characteristics of the product or services. Market transactions are supposed to be transparent to maintain the perfection of information. But in reality, information flows are not perfect, making the existence of perfectly competitive market a myth. The other forms of markets-monopoly, monopolistic competition and oligopoly-the most common form of market structure, do not even have perfect information as one of the assumptions. "One cannot judge the efficiency of the price-mechanism with such an unrealistic assumption of perfect information on the part of everybody." Our theoretical habits of approaching the problem with assumption of more or less perfect knowledge on the part of every one has made us somewhat blind to the true function of the price-mechanism and leads us to apply rather misleading standards in judging its efficiency"(Hayek, 1945,p527).

Any economic problem not only refers to the existing resources or redistribution of them but also to adapt to changes in the particular circumstances of time and place. To be able to adapt to such changes, any society or individual must have familiarity to the changing circumstances, that is, the information must be available perfectly. To participate in exchange of goods and services in the market, both the consumers and the buyers need to be informed regarding the changes in the market situation. As for example, buying umbrella in the days of monsoon and buying umbrella in any other month of the year, have different utilities to the consumer and accordingly the seller also has different objective functions depending on the time of purchase. Even for static dimension, the changes in other characteristic of the goods or any other related information regarding market may have different significance to the choices and utilities of buyers and sellers. Thus, with the existence of market, information flows gain strategic importance.

2.2 Nature of information

Information can be objective knowledge or subjective beliefs. Justified beliefs become knowledge which may be accumulation of data or evidence on the world. But the increments to such accumulation are information; if not justified (Hirshleifer and Riley, 1992). In a number of ways economic theory considers information to be a 'public good', that is, a good available to all for free. The argument is either that information does not

perish when used or, therefore, it can be resold after 'consumption', or that it gets revealed in the actions of the information-users (Sarvary and Parker, 1997, p26). As for example in the auction market, one having more information regarding the characteristic of good to be auctioned, can bid a higher price and take the ownership of the good as compared to one who has little or no information regarding the characteristic of the good to be auctioned. In strategic situations, information once used becomes useless for others, even if it gets revealed by the actions of the information users. Carlton (1982) puts forward an example to show the nature of information being a public good. Information about future demand conditions of a given commodity is, in a world of a large number of buyers and sellers, a public good. There is a free rider problem in the financing of this public good from the point of view of sellers of the commodity, and demanders prefer random prices, that is, no production of public good. Consequently, in a competitive situation no information will be bought and therefore the outcome will be inefficient. Information here is some sort of public input for sellers. Hence, when the seller is a monopoly, it is in his interest to finance information gathering, in fact, the free-rider problem disappears. In case of large buyers and sellers situation, the information is supposed to be freely available, if it is to be perfect.

According to Eisgruber²⁰, information is a system, not a product, with no market price, no physical dimensions, and no easily observable impacts. He also mentions that social benefits of information differ from private benefits, thus externalities exist. Froster (1978) argues that information has decreasing marginal returns and increasing marginal costs. So, beyond some degree of accuracy, social benefits are not improved with improved information. Moreover, information collection entails some costs on the collector. Thus, it has some price value, if not exact market price.

In the modern world legal constraints (for example, copyright and patent laws) prevent the information to be a public good. Moreover, information once used, becomes less important for the other user (for example, in bidding); and it is not revealed by the actions of the users most of the time. Information can only be perfect when it is revealed to the

²⁰ As quoted by Froster (1978)

fullest extent by both the parties-the buyer and the seller. “While there is a single way in which information is perfect, there are an infinite number of ways in which information can be imperfect” (Stiglitz, 2002). Thus asymmetry of information is a feature rather than being an exception in reality. “These asymmetries or imperfection of information play a crucial role in determining the shape of market and the ability of private markets to ensure that the economy’s scarce resources are used efficiently”(Stiglitz and Walsh, 2005, p14).

Information and uncertainty are substitutes. The more information one has, the less uncertain he becomes about the behavior of any phenomenon or situation. Unlike most other goods, information on the levels of basic product characteristics attributes – reliability (variance) and similarity (correlation) which are inherent to information (Sarvary and Parker, 1997, p26-27). The utilities expected from consumption change under uncertain future depending on the probability of occurrences of the event for which the consumption is scheduled (Varian, 2003). The degree of availability of information tends the probability towards one. Thus, the more the information availability is, the less is the risk from uncertainty.

2.3 Value of Information

The main source of information is action. The value of Information (or of an information source) is the increase in the utility an individual expects from receiving the information (or the actual news) and from optimally reacting to it. (Birchler and Butler, 2007). A piece of information is meaningful because it allows probabilities to be revised. The revised probabilities present a different picture of uncertain phenomenon and facilitate the optimal action.

As a basis for action, a piece of information cannot have a negative value. Information may have a negative value if it enters the utility function, rather than as a basis for action.

A piece of information can have negative value to an individual if it is only available in the form of public knowledge. Information may enter a person’s utility function directly-with a positive sign for good gossip or a negative sign for information which destroys suspense.

The value of information, represented by a signal to the player depends on the stakes, i.e. the size of the pay-offs, the prior uncertainty, the precision of the information, the degree of risk aversion. For example, in the standard portfolio investment problem where the payment for a signal correlated with the distribution of possible asset return realizations is subject to the investor's overall budget constraints, the investor's willingness to pay determined as her compensating variation between the informed and the uninformed states (Weber and Croson, 2002).

Wilson (1975) has shown that information may induce economies of scale even if the physical production process has no economies of scale. If the information is to be bought, then the perfection or the degree of betterment of the decision-making process due to the availability of information determines the degree of economies of scale –the better the information the higher the economies of scale.

Information is valuable in determining the forms of market-perfect or imperfect. Even imperfection of markets can be classified on the basis of availability of information. Information has facilitated the different forms of price-discrimination depending on the personalised needs of the buyers (Varian, 2003).

2.4 Information Asymmetry

Information economics, as a discipline that is distinct from information theory (as practised by engineers and technocrats), took off with authors like Kenneth J. Arrow and George Stigler, who started to look at the value and at the strategic use of information. Arrow also introduced the concept of adverse selection and moral hazard. These have become two key notions to describe human behavior in the presence of asymmetrically informed individuals.

“Information imperfections are pervasive in economy; indeed, it is hard to imagine what a world with perfect information would be like” (Stiglitz, 2002). It is due to the fact that different people know different things. When it comes to exchange of goods and services they tend to hide some or total information that may go against them. Even sometimes they present distorted information to gain. One of the earliest attempts to point out the

difficulties of markets characterised with these problems was made by Akerlof in 1970. He demonstrated that markets may break down completely in the presence of asymmetric information. An extensive literature has flourished in the wake of this manifestation by Akerlof. The literature covers the whole range of markets including the education market. Some important offshoots of the asymmetric information paradigm are –adverse selection, moral hazard, monitoring cost, principal-agent problem and signaling.

For firms information asymmetries may act as a source of profitable diversification if the buyers buy more than one product from the firm. Diversification may also take place in reducing the degrees of information asymmetries existing in the market (Nayyar and Kazanjian,1983).For example-engineering colleges nowadays are also offering management courses to be benefited from the existing information asymmetry about the quality of product (education in these cases). Since the students do not know the quality of the product in any case (management or engineering), the colleges can offer both to gain from the existing information asymmetry, as offering two courses will signal something regarding quality of product (education). But for the buyers information asymmetry is seldom beneficial. There are exceptions as in the insurance market, hiding one's ailment or bad health habits one can reap the benefits of insurance.

2.4.1 Adverse selection

Adverse selection refers to situations where one side of the market cannot observe the type or quality of the goods on other side of the market. For this reason it is sometimes called a hidden information problem. These problems arise when the buyer is unable to observe either the sellers' characteristics or the contingencies under which the seller operates. If buyers cannot ascertain the competence of the service provider, quality and value of the service, the risks of the malpractices cannot be predicted (Nayyar,1990).Equilibrium in a market involving adverse selection will typically involve too little trade taking place because of the externality between the 'good' and the 'bad' (Varian, 2003). In such a case 'bad-quality providers' can enter the market and drive out the 'good quality' providers by so lowering the price that the latter cannot obtain economic returns on their competence enhancement (Akerlof,1970). Scorsone and Weiler

(2004) have suggested that given the fixed cost of producing information, thin (marginal or small) markets are likely to produce less information than thick (established and large) markets. Thick markets generally have lower average costs of production of information but develop a higher level of accuracy. Thus, the smaller the market, the higher are the chances of existence of information asymmetry. The thin markets are generally prone to the problem of adverse selection as illustrated by Akerlof (1970) himself in the markets for 'lemons', a thin market.

Hillman (2003, p639) puts forward an illustration of adverse selection in education. He takes the case of private and government schools. The presence of private schools introduces adverse selection into schooling. Adverse selection takes place when exit of students from government schools to private schools reduces the average quality of input of parents and adversely affects the social norms (and status) of children who remain in government schools. Successive exit to private schools then continually reduces quality of government schools and induces additional exit. Only children whose parents cannot afford to pay for private schools or children whose parents are satisfied with inferior – quality education, in the end remain in government schools. The objective of equalising educational opportunities, by changing the rule for school attendance cannot be achieved because of adverse selection.

The higher education market is a typical case for adverse selection. In this market, students fail to make out the characteristics of the product to be bought from the institutes. They are hardly provided with information regarding the quality of the product. Even if information is provided, there is no guarantee of the authenticity of the information. As a result, after taking admission, when they are exposed to the true product, they have already been victim of the problem of adverse selection. Moreover, the increasing lust for professional degrees to earn more money has led to the creation of three classes of graduates- graduates from high quality professional colleges such as IITs, graduates from low quality professional colleges and graduates from general degree courses. These three distinct categories of students lead to adverse selection of courses as

those pursuing general degrees are ones who either really wishes to pursue these courses only or those who cannot afford costly professional education.

2.4.2Moral hazard

Moral Hazard refers to the situations where one side of the market cannot observe the actions of the other side. For this reason, it is sometimes called a hidden action problem (Varian, 2003). If only sellers know the quality of goods, then it becomes difficult for the buyers to judge. In such markets there is an incentive for sellers to reduce quality and gain short-term gains before the buyers catch on. In such a situation price-level involves a premium above the cost. This premium may be utilized by the seller in meeting the investment in reputation (Shapiro, 1983). Arrow (1963) points out that in case of moral hazard, buyers can only judge quality by the average –level in the market. In such a situation sellers with inferior products are encouraged while those with superior products are discouraged. Thus, there prevails a temptation to depreciate quality. This temptation constituted ‘moral hazard’ for Akerlof (1970) and becomes ‘fraud’ for Darby and Karni (1972). In these situations, countervailing institutions tend to emerge establishing distinctiveness and responsibilities through brand names. This then tends to signaling.

Hogg and Huberman (2002) found in the Siemens Austria idea future markets , one potential problem for implementing idea future markets to monitor project management is the moral hazard generated when motivation suffers due to forecasted failure to meet deadlines or when unethical market participants attempt to manipulate project outcomes. Hillman (2003, p634) puts forward the paternalistic provision of education as a private entitlement to solve moral hazard problem associated with social insurance. The moral hazard problem may arise when some children and teenagers themselves or their parents choose not to go for education; education being a private decision. But having gone for education, they may become self-supporting and able to use their productivity better than not being educated. By providing paternalistic education as an entitlement, people may be made self-supporting from their own productive activities and employment, and not dependent on future government income transfers for existence.

2.4.3 Principal –Agent problem

An agency relationship arises when one, designated as the agent, acts for, on behalf of, or as a representative for the other, designated the principal, in a particular domain of decision problem. All contractual arrangements, as between employer and employee or the state and the governed, contain important elements of agency (Ross, 1973, p134). Most analyses of the principal-agent problem assume that the principal chooses an incentive scheme to maximize expected utility subject to the agent's utility being at a stationary point. Such analyses ignore the condition that the agent should be at a global rather than a local maximum. Mirrless (1975) has shown that this procedure is generally invalid unless, at the optimum, the solution to the agent's maximum problem is unique. In the absence of uniqueness, the first-order conditions derived by the above procedure are not even necessary conditions for the optimality of the risk-sharing contract.

Information is negative to risk. Due to lack of information regarding the utility of the other the risk –element due to uncertainty creates the principal-agent problem. This problem is a threat to Pareto efficiency which states that the welfare of any individual when increased should leave the welfare levels of all other undisturbed. But in the presence of the principal-agent problem, the gainer gains at the cost of the loser. Ross (1973, p138) has shown that the need to motivate agents does not conflict with the attainment of Pareto Optimality, iff a very broad and relevant class of payoff structures and an interesting class of utility functions are known to both the parties. But this kind of information is itself difficult to have due to information asymmetry.

2.4.4 Signalling and Efficiency

The concept of signaling was put forward by Spence (1973).

Signaling characterizes the markets where only one side of the market knows the quality of the good that to be sold and the other does not. For the sellers' side, signaling is a kind of implicit guarantee the seller engages in some ancillary activity that would be irrational, were his claims not correct (Hirshleifer, 1973, p37). For example- workers who choose jobs may signal about their abilities, education or training as depicted by certificates of a

worker may signal about their productivity. Sometimes job-assignments of workers with some employee also signal their ability to other employees (Waldman, 1984).

At equilibrium, both parties participating in the market are aware of the informational consequences of their actions. Who takes the first move is very crucial. When an employer takes initiative in sorting or screening of probable employees, depending on the signals provided by them, it is identified as screening model. When the employees take initiative they provide signals. Thus, the difference between signaling and self-screening models lies in the technicalities of game theory, and in particular whether the informed or uninformed player moves first.

Example from education-engineering college students (mostly poor or average) getting certificates from institutions

2.4.5. Monitoring Costs

Monitoring cost has to be incurred by one side of the market to monitor the actions of the other side of the market in the presence of asymmetric information. Even after incurring monitoring cost, information is difficult to be accessed fully as it is not revealed by the actions all the time. But nevertheless monitoring cost by increasing total cost leads to an inefficient outcome. The costs incurred to collect information regarding the product to be purchased, increases the total cost of the product for the potential buyer. This increased cost finds no counterpart from the sellers side, thus makes the exchange a sub-optimum one as the market price fails to depict the true cost of the product. The increased cost is due to the increase in the transition costs involved in monitoring.

Murnane (1981) has observed in the education market that if performance were the prime determinant of the compensation of teachers, then it will increase the monitoring costs. He also concludes that the efficiency of a firm depends on the level of transaction costs involved in monitoring. Wholey and Harty (1992) find performance based monitoring to be beneficial for both the monitor and the one to be monitored. He cites an example from South Carolina where performance monitoring of the teachers by the students has

improved the school performance on one hand and the achievement of students on the other.

Regulation is a kind of monitoring of compliance with specific norms and involves certain costs. When one side of the market is regulated it entails extra costs to the other side of the market. The regulation by a third party(not involved in the transaction or exchange) can reduce the cost to be incurred by either of the parties involved in the process of exchange on one hand and reduce the element of uncertainty prevailing in the market due to information asymmetry. This provides the ground for regulation of the market by the government.

2.5. Features of Higher Education Market

As a commodity higher education is quite different from ordinary commodities. It falls under the criterion of 'experience good' from the point of view of observation of quality and a quasi public good or a mixed good from the point of view of provision. Likewise, the market for higher education is also different from the ordinary goods market. According to Niklasson (1996) the traditional universities operate in a market model known as 'market by design' with a strict pre-determined system closed from external influences and with each university a pre-determined role. The universities or institutions have their mission which they try to spread. To maintain the pre determined system or the standard of the institutions the universities rely on customer inputs. That is to say the students, the consumers, are the inputs for higher educational institutes (Majumdar, 1983; Winston, 1999). The output of the market is again hard to be recognized. It is not the students but the degrees and even paying fees does not ensure the award of degree by an institute (Majumdar, 1983). Thus, the production function of a firm in higher education market is not clearly defined. Here, the input itself is the decision maker instead of the entrepreneur only. The higher education market in almost all countries is operating in a situation where the government sector is already working. The existence of government sector in market characterises the higher education market as quasi markets (Niklasson, 1996). The second most important peculiarity oh higher education market is that the firms

in market identify themselves as non-profit firms that is 'not for profit' business is their feature whereas the firms in other ordinary markets claim to be profit earning. These firms are more prone to be affected with the syndrome of information asymmetry as their operating mechanism is hard to gauge (Winston, 1999). The firms or institutes in the market try to maintain their hierarchy by appointing the faculty of their standard and admitting the students of their standard. For example IITs and IIMs, maintain their standard by appointing the kind of faculty which is their characteristic feature. Perhaps this is why a huge faculty positions are vacant in these institutes.

Conclusion

Higher education market is a peculiar market with its typical features. The market suffers from the problem of information asymmetry like all other markets. But its peculiar features make it prone to be suffering from the problem. When the institutes maintain their standard, they do not reveal why they allow some students to take admission and not to others. The same is the case with the appointments of faculties. The market is not fair whatever may be the motive of the firms. The students are the sole sufferers as they stand to fail in judging the institutes on the basis of the available information. Higher education being an experience good, the quality is revealed after entering the institution. In case of institutes maintaining hierarchy, even after entry, the quality or features may be not fully known. The market is awkward in operation where market principals are not easily observable. That is why the market is quasi market. The market with its features is a case for regulation as in absence of complete marketisation, efficiency can not be expected. The market can not be left free to operate at its own to befool the consumers.

3. The Study: Methodology and Analysis

Information asymmetry has been discussed as a characteristic feature of the (imperfect) market in the previous chapter. This feature of the market, observed in its various offshoots-adverse selection, moral hazard, monitoring cost, signaling and principal-agent problem, distorts the choice-patterns of the buyers and leads to sub-optimal exchange in the market by affecting the decision-making process. The sub-optimal exchange denotes existence of inefficiency in the market. In the higher education market also, information plays an important role in guiding the decision-making by influencing choice-patterns of the potential buyers. This chapter will deal with the functioning of the higher education market in the light of discussions presented in the previous chapter. Data collected from students of engineering is analysed to gauge the functioning of the colleges and hence the market in higher education is discussed.

3.1 Rationale for the study

In the higher education market, where education is exchanged for a price, the product is somewhat different from what is traded in a conventional goods market. Here, the sellers (institutions of learning) sell heterogeneous product (certificates of degrees in different packages²¹). The buyers here cannot judge the product before use, as the product (education) is a time-bound service, an 'experience good' (Teixeria, Jongbloed, Dill and Amaral, 2004). The consumers can judge the quality only through experience of use or consumption, that is, after taking admission to the institutes. Once the students choose some course or join some institute after a point of time (when admissions to other competing institutes are closed), there is no retreat, as it may harm the buyer itself by making him/her lose one year at least and the amount of fee-deposited (in most of the cases). One year lost may make big differences in the career of any student. Therefore, choosing the right kind of institute becomes essential in the higher education market. In this case the buyers need to collect as much information as they can to have foreknowledge about the various issues related to education delivery system of the institutions offering the courses. Depending on the various sources of information, the buyers choose among various institutions. The information here relates to the parameters

²¹ The packages refer to the way the service is imparted to the buyers (students).

or signals to judge the quality of education. These may pertain to fee-structure, infrastructure-academic and physical, placement history and other related information.

Traditionally institutes have been offering prospectus which furnishes information regarding the institutes and their service. Nowadays internet has become a valuable source of information for the buyers (students, parents or guardians). But the mere existence of sources of information does not suffice the purpose; they need to be authentic also. There may be some false signals, some facts exaggerated, and some facts hidden intentionally. When the consumer chooses to buy the product on the basis of such imperfect information, he fails to judge the actual worth of the purchase. Thus, quality of the very product that the buyer intends to purchase is difficult to ascertain. Therefore, examining the functioning of the higher education market on the anvil of availability of information becomes essential to examine the functioning of the market which is claimed to be efficient and catering to choices of consumers by neo-classical economists. In fact, consumer choices are said to be the regulating factors of the market system, implying thereby the firms failing to cater to the choices of consumers have to leave the market. When the choices themselves are distorted, the market cannot work efficiently as it is claimed to be working. This study seeks to examine the private system of funding of higher education on the efficiency ground. The efficiency of the higher education market is examined on the basis of freedom of choice approach as advocated by the proponents of market mechanism. The freedom of choice is judged on the basis of availability of information from the buyers' side.

A service like education needs to be maintained at some level of equivalence, for the sake of comparability of the certificates issued by different institutions and universities. For maintaining this, some regulating bodies have been constituted by the government of India. These are entrusted with the task of regulating the standard of the education being imparted and related activities. When any problem with the higher education system is identified, these bodies have certainly some roles to play. Therefore, examining the higher education sector in the light of availability of information is closely associated

with the revisiting of regulation of the system. This study also proposes to revisit the working of these regulatory bodies in the field of higher education.

Recent recommendations of the National Knowledge Commission (2007) of reviewing the regulation system of higher education in India and proposing in favour of private funded higher education and HLGSS (2008) of encouraging the provision of for-profit higher education have ignited the debates. The proponents of 'for-profit' higher education or privatisation of higher education advocate the logic of freedom of choice of students. Belfield and Levin (2002) consider freedom of choice as one of the features for determining the sustainability of the education system. If freedom of choice is taken as a determinant of the sustainability of the education system, then presence or availability of information becomes crucial. Kapur and Mehta (2006), Agarwal (2006), and Kaul (2006) find the present system of regulation of higher education in India as an impediment in the path of equitable and sustaining higher education system and advocate for a complete change. To ensure the availability of information and thus maintaining the freedom of choice, existence of regulation is a precondition. The various studies on privatisation of higher education in India have rarely looked into the problem from the point of existence of information-availability.

3.2. Research questions

This study seeks to find answers to the following research questions-

1. Whether the market in higher education functions efficiently? (Keeping aside the equity considerations)
2. Whether regulation of higher education is essential to make the market in higher education function efficiently?

3.3. Hypothesis

1. There exists information asymmetry in the higher education market.

2. The sources of information for the buyers (students) of higher education are either non-existent or not reliable or lie mostly out of the formal settings of selling organisations (the institutes).

3.4. Profile of the Area of study

The study is carried out in the Bardhaman (Burdwan) district of the state of West Bengal. The district with population of nearly 7 million is one of the prosperous districts of West Bengal. The District is endowed with resources the fertile soil on the one hand and the coal-mines on the other. There is an industrial hub on the banks of the river Damodar. Its proximity to the neighboring state of Jharkhand is another advantage for the development of trade and mobility of labour. The District has very recently experienced the advent of private professional institutions. These private institutions are functioning in the cities of Asansol, Durgapur, Raniganj and Bardhaman (Burdwan) itself. Two engineering colleges of the District are taken for the purpose of this study, namely, National Institute of Technology, Durgapur and Asansol Engineering College, Asansol. Both the colleges are almost on proximal distance from the capital city of Kolkata. The two cities-Asansol and Duragapur are almost equally populous (nearly 5 lakhs) and are industrial centers.

3.5. Profile of the colleges

3.5.1 National Institute of Technology, Durgapur (NITD)

Established in 1960 as a Regional Engineering College, it gained its present status of National Institute of Technology in 2007. This is a fully public funded premier institute in the field of engineering and technology. It runs fourteen departments including Humanities and Management Studies. The Institute is situated at a distance of 160 kms from Kolkata. With the strength of 2600 students and 133 faculty members, the Institute awards degrees of B.Tech, M.Tech, M.C.A, M.B.A. and Ph D. The Institute admits students on the basis of All India Engineering Entrance Examination and from state-quota depending on the entrance-examination conducted by the concerned states.

3.5.2 Asansol Engineering College (AEC), Asansol

This College was established in 1998 and earlier was affiliated to the University of Burdwan. With the establishment of West Bengal University of Technology (WBUT) in 2000, the affiliation passed from the University of Burdwan to WBUT in 2001. The College runs seven departments at present and the degrees are awarded by the WBUT. The college admits students selected through the West Bengal Joint Entrance Examination (WBJEE) and Joint Entrance Examination for Lateral Entry (JEELET) for diploma holders in engineering. There are some admissions in the management quota. With the strength of about 2200 students and about 50 faculty members the College is a fully self-financed unit of the Techno India Group.

The Techno India Group identifies itself as a knowledge management group. It proclaims its mission for supporting the entire path of knowledge from Nursery to PhD. In West Bengal, the Group is running Engineering colleges, Business Schools, Law School, Paramedical School, Finishing School (helps in placement of professionals), Public Schools and Modern Schools. The group is also in the process of developing two hospitals in the state. It has launched a Research Journal since May, 2008. The group is spreading itself in the cities of Delhi, Bangalore, Hyderabad, and Mumbai.

Assumptions

The two selected colleges differ in various characteristics. NITD being 38 years older than AEC certainly has advantages of having reputation and well-known in the industrial sector, and it can reap the economies of large scale operation. Despite these differences they can be compared on the grounds of their information dissemination system, their attitude towards providing services, their willingness to cooperate with society and their motive behind providing education. This study seeks to compare these two colleges on above criterion. Their other differences are supposed to be outside the purview of this study.

The Questionnaire

The questionnaire is divided into three sections, namely, A, B and C. Section A consists of questions pertaining to the background of the respondents', viz, family background, educational background of the respondents and their family members. Section B consists of questions pertaining to the facilities provided by the colleges and indicators of quality.

The respondents were asked to compare two situations –before admission and the present one when they are in the institution. Section C consists of questions regarding to respondents’ evaluation of their present academic standard, their future goals and their previous educational background.

3.6.3 Profile of the Respondents

For the purpose of this study, 37 students²²⁻²¹ from AEC and 16 from NITD, were interviewed. All the students interviewed are current students of their respective institutes. The respondents from NITD are second (5), fourth (10) and eighth(1) semester students and the respondents from AEC are second(9),fourth(8), sixth(2) and eighth(2) semester students²³.The specialization of the respondents are Information Technology, Computer Science and Engineering, Mechanical Engineering and Electronics and Communication Engineering. All the respondents are young aspirants aged between 19 to 23 years. The questionnaire administered is attached in the Appendix.

The distribution²⁴ of family annual income of the respondents from AEC is less than 1.5 lakh (12)²⁵ and more than 1.5 lakh (7). The number of earning family members of these respondents are one (15) and two (3). The family size of these respondents are three (4), four (5), five (4) and six (4). The respondents are doing specialization in the areas of Information Technology (4), Mechanical Engineering (3), Computer Science (1) and Electronics and Communication Engineering (11). The respondents from AEC belong to general castes (18). Most of them are residents of West Bengal. 12 respondents have passed higher secondary from West Bengal Council of Higher Secondary Education and 17 have qualified WBJEE for admission to their college.

Table-I. Educational Qualification of family members (AEC)

	General graduate	Professional graduate	Post graduate	Higher secondary	Matriculation	Eighth
Father	13	1	3	2	-----	----

²² All the respondents are boys.

²³ The students were interviewed during the month of March, 2008, the period of even semester.

²⁴For AEC, N=21, the remaining number, not reported in the discussion, is the number of responses that were not responded.

²⁵ Numbers in the parentheses show the concerned frequencies.

Mother	4	----	1	6	6	1
Brother	3	4	-----	1	-----	-----
Sister	2	1	-----	1	3	-----

The distribution²⁶ of family income of the respondents from NITD is less than 1.5 lakh (3) and more than 1.5 lakh (13). They all have one earning family member. The family size of these respondents are three (4), four (6), five (5) and six (1). The respondents are doing specialization in the areas of Information Technology (9), Computer Science (1) and Electronics and Communication Engineering (6). The respondents from NITD belong to general castes (12) and Other Backward Castes (3). Most of them are residents of other states. A majority of them (10) have qualified AIEEE for admission to their college

Table-II. Educational Qualification of Family members (NITD)

	General graduate	Professional graduate	Post graduate	Higher secondary	Matriculation	Eighth
Father	7	2	5	1	1	-----
Mother	9	-----	-----	1	4	-----
Brother	1	2	-----	4	-----	-----
Sister	3	-----	-----	2	2	-----

3.7 Analyses of Data

For the questions under Section-C, multiple responses were invited from the respondents on the points of consultation regarding education or career related queries, reasons for choosing their colleges, sources of information regarding the college/institute at the time of admission and their advices for the aspiring entrants or new comers to the field of engineering. The respondents provided 1 or 2 responses for the above queries. The responses were clubbed under multiple response and corresponding percentages of responses are reported.

Consultation for Career or Education

This question was asked to know the sources of information the respondents have in their proximity or use frequently. In the absence of formal information system or in the

²⁶ For NITD, N=16

situations of doubt these sources may be used by the students. In response, most of the respondents (40.5%) from AEC mentioned their ‘senior friends’, while respondents from NITD mentioned ‘teachers’ (both current and past) as most helpful. If employed friend and senior friends (senior in class of study not employed yet) are taken together, then for NITD respondents ‘friends’ will outweigh ‘teachers’ as most helpful source and for AEC respondents most helpful source of consultation will still be ‘friends’ with 45.9%. For AEC respondents ‘teachers’ are second most helpful source of consultation regarding career or education. Thus, ‘senior friends’ (including employed ones) along with ‘teachers’ are most consulted. This reveals the dependence on them as one of the trusted sources for consultation and hints at the unavailability of formal kind of consultation system. In most of the families parents are not the most consulted sources, may be because of little knowledge regarding the changing scenario of the job-market.

Table-III. Consultation for Career/Education

Category label	AEC		NITD	
	Counts	Percentage of Responses	Counts	Percentage of Responses
Employed friend	2	5.4	4	10.3
Senior friend	15	40.5	11	28.2
Father	4	10.8	7	17.9
Mother	2	5.4	1	2.6
Teacher	9	24.3	12	30.8
Brother	2	5.4	1	2.6
No one	1	2.7	0	0.0
Other Relatives	2	5.4	3	7.7
Total responses	37	100.0	39	100.0

Reasons for selection of the college

This question was asked to assess the information the students had at the time of admission regarding their college and the factors determining the choice of the college. In response, the respondents from AEC mentioned ‘Proximity from home’ as the major reason behind joining the college for the majority of respondents (30%) while for majority of NITD respondents (32.5%) ‘Good track record of NITD’ is the major reason

that attracted them towards NITD. For the AEC respondents (20%) 'library' and 'laboratory' facilities are the second major reason while for the NITD respondents 'placement assistance' and 'government funding' are the second and third major attractions. Choosing one private college among some is affected by the proximity of college from home, given the availability of list of colleges and the streams of courses available. AEC is situated in an area surrounded by industrial belt supplying good number of aspirants of engineering. Government funding is seen as a source of assurance and ease as far as the bearing of cost of higher education is concerned by many of the aspirants. 'Good track record of college' as a positive signal for the job-market attracts the aspirants.

Table-IV. Reasons for selection of the college

Category label	AEC		NITD	
	Counts	Percentage of Responses	Counts	Percentage of Responses
Fee-structure	1	3.3	2	5.0
Old college	1	3.3	3	7.5
Good track record/Techno	2	6.7	13	32.5
Placement assistance	5	16.7	10	25.0
Library/Lab facility	6	20.0	1	2.5
Near from home	9	30.0	1	2.5
semi-	1	3.3	9	22.5
Best available subject	0	0.0	1	2.5
Total responses	30	100.0	40	100.0

Aim behind doing engineering

²⁷ In the case of AEC, association with Techno Group improves its track-record and reputation.

²⁸ One respondent from AEC, reported AEC as semi-government, may be because of ignorance, but this hints the imperfection of information dissemination

This question was asked to trace the motivating factor behind doing engineering and to assess the attitude towards job-market and hence towards future of the respondents. 'Getting a job in the private sector' has been reported as the main aim behind doing engineering by the respondents (AEC-57.7%, NITD-50.0%) of both the institutions. The second revealed aim is 'getting job in public sector organisations' (AEC-30.8%, NITD-27.5%). The greater emphasis on private sector job denotes the attraction towards high-paid jobs as compared to average paid public sector jobs. The professional courses like engineering are opted for getting jobs as early as possible. The careerism factor is acting as an impediment in the path of selection of regular or general stream courses.

Table-V .Aim behind doing engineering

Category label	AEC		NITD	
	Counts	Percentage of Responses	Counts	Percentage of Responses
Job in private	15	57.7	20	50.0
job in public	8	30.8	11	27.5
Research	1	3.8	07	17.5
Be an engineer	1	3.8	00	00.0
Accidentally	1	3.8	02	05.0
Total responses	26	100.0	21	100.0

Source of Information at the time of admission regarding respective institutions

This question aimed at gathering information regarding sources of information available at the time of admission to assess the information dissemination system of the colleges and to know the reasons for asymmetry of information. 'Senior' or 'employed friends' were reported to be the main source of information regarding institutes at the time of admission by the respondents of both the institutions (AEC-55.2%, NITD-34.5%) while very few reported 'Prospectus' or 'catalogue' as sources of information (AEC-6.9%, NITD-17.2%). For NITD respondents (37.9%) 'internet' is the major source of information while for AEC respondents only (13.8%) reported 'internet' to be available source of information.

This denotes that the senior friends are taken to be reliable sources. They are the ones most consulted for career or education related queries also. It can be inferred that the

existence of information asymmetry has made the senior friends as reliable sources as they are the ones having no incentive to cheat their junior friends. If sources of information are availed to by the institutes or may be the information provided by the institutes through their web-sites or prospectuses are seemingly inadequate. A good percentage of respondents from NITD (33.3%) have reported internet as one of the sources of information regarding college while the respondents from the AEC have reported 'teachers (school)' as second most used source of information regarding college. These sources are informal sources on one hand and the aspirants require incurring cost to gather information from these sources, especially from the seniors of the college. One has travel in most cases to meet the seniors to gather information. Sometimes calling over phone and chatting is also used for the purpose of information gathering. These prove the existence of monitoring cost in the education market. This cost element increases total cost of education on the part of students and leads them towards sub-optimal choice as compared to a situation where the institute provides all the information formally. But mostly the information on the part of the institutes is kept either unrevealed or sometimes is misleading, thereby encouraging the students to incur the monitoring costs.

Table-VI. Source of Information

Category label	AEC		NITD	
	Counts	Percentage of Responses	Counts	Percentage of Responses
Internet ²⁹	4	13.8	11	37.9
Senior/Employed friends	16	55.2	10	34.5
No source at all	2	6.9	0	0
Teacher	4	13.8	0	0
Local relative/Friend	1	3.4	3	10.3
Prospectus/catalogue ³⁰	2	6.9	5	17.2

²⁹ The NITD provides almost all relevant information on its web-site, but the web-page of AEC provides very little information. When last accessed on 08.11.07 as www.aeccollege.org, it did not use to show faculty qualifications, fee-structure, and academic events. The web-page has been changed twice –first to www.aecwb.ac.in and then at present to www.aecwb.net within last six months.

³⁰ At the time of counseling by the WBUT, students are not provided with any prospectus or catalogue. They are informed about the available seats in various colleges only. They can only get these after taking admission to the college.

Total responses	29	100.0	21	100.0
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Advice for new comers

This question was asked to make the respondents speak about their own experience. The difficulties they faced or are facing in the college or area of study keeping in consideration their prospective job market. Respondents from both the institutes suggest the new comers or the aspirants to ‘work hard’ and to ‘have clear concepts’ of the subjects studied at senior or higher secondary level (AEC-39.4%, NITD-44.4%). As second most important advice the respondents from AEC(21.2%) suggest not to waste time by making gap in academics and testing ones’ ability before coming to the field of engineering , but the respondents from NITD(22.2%) suggest to try for IITs(Indian Institute of Technology). The difference in terms of second advice, in the case of AEC respondents may come from their exposure to the job-market, either directly observed or from the experiences of the seniors. Candidates with gap in academics and low level of understanding are not considered for campus placements these days. The craze for IITs, having top class track record, is still ruling as evident from the suggestion of NITD respondents. Considering the reason of choosing the college as reported by the NITD respondents and their suggestion of joining the IIT, reveals the importance of Good track record or reputation of colleges as one of the factors still being given importance. The reputation factor makes institutes of higher learning different from firms in the goods markets. The institutes which are at the top will remain at the top as it is difficult for the new or average quality institutes to match their reputation and the top quality institutes also admit students and employ faculties of top quality.

Table-VII. Advice for new comers

Category label	AEC		NITD	
	Counts	Pct of Responses	Counts	Pct of Responses
Try for IIT	1	3.0	7	28.0

If have to join private Eng College , then	3	9.1	0	00
Do Engineerng	1	3.0	0	00
Don't waste	7	21.2	4	16.0
Hard work/Concept clarity	13	39.4	11	44.0
Don't do engineering	1	3.0	00	00
Test your ability	7	21.2	00	00
Total responses	33	100.0	18	100.0

Information regarding facilities and details of college before and after the admission

The Section-B of the questionnaire contains indicators of performance and quality of a college or higher educational institute. The students generally select some college for admission on the basis of information regarding these indicators. Comparison of these indicators by the respondents on the basis of availability of information at two time frames one at present(time of interview) and the other before the time of admission, provides the gap between the information that the students have at present when they are inside the college and at the time of admission.

The respondents were asked to compare their state of awareness or information at the two time periods regarding various facilities provided by the college and details like-scholarship, fee-waivers etc. Their responses are coded on a 6 point scale and compared in the tables (Appendices- II and III).

Asansol Engineering College (N=21)

In the case of hostel facility, placement history, rank of the college, library and laboratory facility, affiliation of college, availability and qualification of teachers, fee-structure and syllabus and curriculum the students are more aware at present, as the average scores after admission are less than that of before admission. Having more information at present denotes the existence of less information or awareness at the time of admission. In the case of management of college, physical infrastructure and choice of courses the

scores are just close to each other, meaning thereby either the students still don't know much about the management of the college, physical infrastructure and choice of courses or there is no change in their awareness regarding these. As far as the case of scholarships and fee-waivers is concerned, the scores are highest, meaning thereby that the students even are not sure regarding their knowledge of scholarships or fee-waivers in the college.

It can be observed from that for most of the cases, the scores are less after admission as compared to that of before admission. This shows that there exists asymmetry of information at the time of admission. The aspirants, being outsiders, cannot manage to have all necessary information regarding certain key points which are essential for taking decision to take admission.(Appendix-II)

National Institute of Technology, Durgapur (N=16)

For rank of the college, availability and qualification of teachers, syllabus and curriculum, scholarships and fee-waivers and choice of courses the students have more awareness or information after admission(at the time of study) as the average scores after admission are less than as compared to that of average scores before admission. For placement history, library and laboratory facility, the students are less confident of having awareness than at the time of admission. This may be because they had collected some false or unauthentic information at the time of admission. For the affiliation of college and fee-structure there is no change of position as far as the awareness or information is concerned. (Appendix-III)

These results depict the existence of information asymmetry among the students at the time of admission. The extent of information asymmetry is more in the case of AEC as compared to that of NITD. For NITD only three variables placement history, library and laboratory facility are the indicators which have shown changes in information regarding them while for AEC, hostel facility, placement history, rank of the college, library and laboratory facility, affiliation of college, availability and qualification of teachers, fee-

structure, scholarship and fee-waivers and syllabus and curriculum have shown changes in information regarding them.

Changes in expectation from the future

The education provided at the college makes the students feel their worth. Being into the proximity of job-market they now understand their market value. They must use certain parameters to measure their market worth. On running regression, two variables are found to be the factors the students use often to judge their market value. The two variables are family income and quality of teaching. These two variables have been found to be determinant of expected salary of students of engineering. The following are summary tables of the regression.

Table-VIII Sum of Squares

	Sum of Squares	df	Mean Square
Regression	652250271721.568	3	217416757240.523
Residual	1374287917687.729	33	41645088414.780
Total	2026538189409.297	36	

Table-IX Regression tables

	Unstandardized Coefficients(B)	Std. Error	Standardized Coefficients(Beta)	t	Significance
(Constant)	330918.707	108298.353		3.056	.004
Satisfaction with quality of teaching	-72584.762	66598.123	-.171	-1.090	.284
annual family-income	.736	.206	.524	3.569	.001
Coverage of syllabus	79706.404	62424.332	.200	1.277	.211

Family income gives a kind of confidence to students to think of more and sets a benchmark to them also. They have to think in the terms of the family income to ask for packages during placement so as to match their family standards at least. They also feel confident of getting a job even after completion, if not during campus selection. Students from relatively poor background cannot afford to wait longer for a job as it for getting an easy job that they are in engineering college. Quality of teaching sets the standards of students in the job market as prospective employee. The better they are taught, the better they will be able to work. This is why quality of teaching has been found to affect the expectation from the job market. When students enter with high expectation and find the quality of teaching is not satisfactory their expectations begin to fall sort of their previous expectations. This causes changes in expectations. Being not aware to the actual quality of education or teaching at the time of expectation students find themselves in a 'what to do' situation. They find revising their expectations as the only way out.

Conclusion

There exists information asymmetry among students at the time of taking admission to colleges. They hardly have basic information regarding certain parameters of quality such as teaching, infrastructure, scholarships, qualification of teachers and other related information. There is a noticeable difference between AEC and NITD as far as their modus operandi is concerned. The NITD is doing well in terms of providing information to students as revealed by the responses where as the AEC is falling short.

The market in technical education is characterized by information asymmetry under influence of which freedom of choice is not complete. Hence the market cannot be said to be efficient as far as decision making is concerned. Students are not freely choosing their institutes as information regarding them is not accessible if present or not present in any domain. The study shows that information asymmetry exists in the education market and the most of the sources of information are informal ones, not provided by the institutes, the market in higher education is not efficient as it claims to be. It leads to sub optimum choices and inefficient outcome due to the problem of information asymmetry.

4. Regulation of Higher Education

The higher education market is characterised by information asymmetry as discussed in chapter three. The buyers of higher education, the students, do not have perfect information regarding various indicators of quality of institutes at the time of admission. When they take admission on the basis of little information or misleading information regarding the indicators of quality of education, they are left to repent on their decision when they come to experience the actual quality of education. Their aspirations become diverted or distorted. The society as a whole stands to lose as the society is supposed to be gaining from education of each and every individual, as education has externalities³¹ attached to it. When the individual himself feels not to be benefited from education, the societal benefits are hard to accrue. This is important in the present context where there is an unmistakable trend towards marketisation of Higher Education as information asymmetry leads to failure of the higher education market. Therefore, higher education needs to be regulated to overcome the problem of information asymmetry so as to prevent market-failure in higher education. This chapter is going to discuss the various issues related to the regulation of higher education.

4.1 Theories of Regulation

Markets are claimed to be self-regulatory as less competitive firms are said to be leaving the market making ways for more efficient firms. Competitiveness of firms is said to be determined on the basis of consumer choices, whether they can or cannot fulfill them. But in the markets characterised with information asymmetry, external (Government) regulation is needed to maintain free flow of information to establish the consumer choice regulation. Regulation is advocated on the grounds of increasing competition and controlling market-failure. The regulation of decision-making may stem from many reasons, some of them are-existence of monopoly power³², externalities, information

³¹ Corresponds to the situations where economic actions of one agent affects (positively or negatively) the other.

³² The extent of monopolisation of the market.

asymmetries, and free-rider problem³³ (Jongbloed and Vossensteyn, 2001). In the case of monopoly power, there may be concentration or collusion preventing new entrants. The threat of entry of a new entrant can make the existing firms behave in competitive manner. To ensure free entry, regulation needs to play its role. The growing marketisation of higher education due to increasing privatisation and provisions of GATS, the possibility of monopolisation cannot be ruled out. In the presence of externalities, market fails to allocate resources efficiently as for externalities a price-tag cannot be attached. In case of negative externalities, some sort of agreement can be reached after negotiation, given the rights of the agents, symmetrical information and the cost of negotiation being smaller than that of cost of regulation (Coase, 1960). If the negotiation cost exceeds the regulation cost, then regulation will be a better option. In the case of positive externality, allocation itself needs to be regulated to maximise the benefits coming out of the externalities. Improper allocation may lower the benefits coming out of the goods having positive externalities, such as higher education. For knowledge or information, public or quasi-public good³⁴, therefore, regulation becomes a must. For these goods, allocation may not be regulated as they can be allocated on the principals of market but the functioning of market itself needs to be regulated as these goods are beneficial from the societal point of view. For higher education regulation can be divided into three basic categories-regulation of structure-entry or exit, competition, protection of intellectual property rights, funding and recognition; regulation of conduct-price, quantity, quality, capacity and inputs; and regulation of administration-accountability (Jongbloed, 2004). The regulation of structure can be done on the basis of setting minimum standards to be followed by the entering or exiting institutes. In education market degrees or certificates need to be comparable to maintain equivalence in terms of credentials. With institutes entering and exiting, it is quite impossible to set any equivalence in credentials. Thus, higher education cannot be left as perfect competitive market. To promote competition between institutes of higher education, their products (degrees) need to be homogeneous, that is, comparable at least. With heterogeneous products, different packages of courses

³³ Corresponds to the situations where users or beneficiaries can avoid payment for the use due to the existence of externality.

³⁴ When exclusion is technically possible.

and degrees), higher education market cannot be competitive. Thus, to make the higher education competitive, regulation becomes a necessity. The protection of intellectual property rights acts as an incentive for higher education institutes to take new initiatives to innovate or invent. Since the higher education institutes already have qualified faculty to do research, the incentivisation of the system can lead to technical and technological progresses.

In the presence of information asymmetries, market fails to offer optimal exchange. In the absence of perfect or true information, uncertainty prevails in the market. Negotiation fails in the case of asymmetric information. In such a situation corrective action can be taken by regulatory authorities to protect buyers and sellers from being cheated by each other. Here regulation takes the form of rules on product quality, dissemination of information regarding product, quality assessment, accreditation, guides to customers and protection of recognised providers ((Jongbloed, 2004). The regulation of market has seen as hurdle in the path of free market mechanism but the very nature of market due to the existence of imperfections like information asymmetry calls for regulation

4.2 Marketisation of higher education in India

Establishing and administering of an educational institution for imparting knowledge to the students is an occupation, protected by Article 19(1) (g) and additionally by Article 26(a), if there is no element of profit generation. Private educational institutes are categorized into aided and unaided institutions. Section 3(b) of the Private Professional Educational Institutions (Regulation of Admission and Fixation of Fee) Bill, 2005 defines an 'Aided Institution' as a private professional educational institution, receiving recurring financial aid or assistance in whole or in part from the Central Government or the State Government or from anybody, under the control of Central or State Government disbursing grants-in-aid or financial assistance and shall include a minority institution. Unaided institutes are fully self-financed and privately managed. Recent upsurge in the numbers of unaided higher educational institutes has created a huge market for education being sold against a price. Recent years have experienced the debates over the regulation of higher education in the wake of providing autonomy to the nascent institutes to be able

to establish themselves. Most of the private educational institutes are owned directly or indirectly by politicians or large business houses.

4.3 Debates over Regulation of higher education –Indian Higher education has been termed as over-regulated by Kapur and Mehta (2006), Agarwal (2006) and Kaul (2006). According to Kapur and Mehta (2006) due to excess regulation the private educational institutions fail to mobilise private capital efficiently, thus resulting into sub-optimal structuring of higher education. According to Mehta (2005) the debates over regulation of higher education is highly charged with private operators charging exorbitant fees, poor quality, financial barriers to entry of deserving students etcetera. In fact, the charges are true as results from the previous chapter follows. Selden (1964) and Belfield and Levin (2002) find regulations of higher education as useless as to them institutes of higher education are strong enough to decide for themselves the proper standards. They argue that with the competitive market in operation, poor quality institutes will automatically be forced to either exit the market or improve their standard. The argument does not consider either the imperfection of market (due to existence of information asymmetry and few financially able educational institutes) or the fate of students due to poor standards of quality in the period of transition of institutes during improvement of standards or their exit from the market. Selden (1964) has criticised the process of accreditation (a part of regulation) as a fallible process using gross measurements to judge the quality of education. According to him, the factors which can produce excellence in case of one institution may be replaced by some other factor in some other institutes and even the agencies may not be the suitable ones to do the job. But for a service like education, there must be equivalence among the degrees awarded by various institutions to be comparable in job-market. If such equivalence is to exist, there can be common factors determining the excellence of educational institutions.

Regulation is advocated for both public funded and private funded educational institutes. In case of private funded institutes market failure, as described under the theories of regulation, is the main reason behind arguing for regulation. But, information and incentive problems are common to both the forms of educational institutions. There is no

reason to believe why large private organizations will be able to solve these problems better than public organisations (Simon, 1991). For both of them, the problems need regulatory prescriptions. Sardana and Krishna (2006) prescribe the redefinition of roles to incentivise the mechanism. Regulation, therefore, needs to be well structured and thoroughly researched to take full account of relevance, requirements, practical constraints and market realities (Kaul,2006,).

Regulation is advocated on the societal grounds, keeping the interest of the society in consideration. The essentials principals of social regulation are hierarchical control, exchange and normative integration (Martinelli-2003, p-296). These are similar to the regulation of structure, conduct and administration mentioned above. Keck (1987) feels that regulation is not always the best solution as regulation itself can suffer from the information dilemma. "Information for control" is an incomplete relationship (Overman and Loraine, 1994). Within the regulatory system, information flows should be maintained at as free as possible.

Recent Recommendations

HLGSS (2008) has expressed its concern over the lack of co-ordination between various regulatory bodies and has advised to restructure the apex level bodies in order to streamline their functioning. The Committee has also recommended reforming the administration of universities and recommends modifying the regulatory bodies so that corporate sector can easily enter the higher education market. On the other hand, National Knowledge Commission has recommended setting up an Independent Regulatory Authority for Higher Education (IRAHE) that would accord degree granting power to universities and will look after standards and setting disputes. These features can be entrusted within the present regulatory system by amending the legal flaws. A totally new regulatory system is not desirable at present, as the existing regulatory bodies can handle all the requirements given the rights and autonomy. Keeping these recommendations in view, The Government of India has constituted a Committee under the chairmanship of Prof.Yashpal to review the functioning of UGC (University Grants Commission) and AICTE (All India Council of Technical Education) in the changing context of higher,

technical and professional education in India and the demands of changing knowledge economy.

Reviewing the functioning of UGC

Unlike the grant-giving agencies in other countries like Canada, Australia, USA and Germany, the University Grants Commission in India is entrusted with two responsibilities-to provide funds and to determine and coordinate standards. The UGC has faced opposition since its establishment in 1956³⁵. In the very beginning, universities were opposed to the idea of any agency other than themselves. To them, Inter-University Board³⁶ was capable enough to look into the standards only a Grant-giving agency on the lines of UGC in Britain was demanded. Though faced with opposition and had a tough going, UGC has played a leading role in setting standards of higher education in India. The UGC Act has been amended thrice in 1970³⁷, 1972 and 1984 after the establishment of UGC. These amendments enable UGC to provide grants to Deemed to be Universities and Non-central universities and confer the rights to recognize universities established by the state legislatures.

Failures of UGC

Though vested with the right to set the standards of higher education, UGC has done little to improve teaching in universities and colleges and restricting the declining trend in educational standards of the country. UGC framed the Minimum Standards Regulations, which came into force from session 1986-87, to regulate standards but it failed to implement this policy excepting the circulation of the policy document (Lok Sabha, 1989, Estimates Committee Report). In the field of research, UGC has been a major failure. Even in the areas related to India, Indian Universities are competing with foreign universities³⁸ (Sena, 1989). UGC has not been able to stop the academic system from being flooded with bogus research. Saxena (1990) criticises UGC on the point of

³⁵ Inaugurated in 1952

³⁶ Established in 1925, presently known as Association of Indian Universities.

³⁷ After the Sapru Committee submitted its report on working of UGC.

³⁸ For example, in the field of comparative Indian literature, better facilities are available in London, Washington and Moscow (Sena, 1989)

bifurcation principle on the lines of which specialized research centres or institutes (like AIIMS, NITDs etc.) were established outside the university system and now departments within universities are assisted on the same lines. This may be seen as some sort of direct help to the concerned institute or department to excel in the area of research.

Legal flaws and battles

Due to laxity in legal terms or lack of legal rights, the UGC and AICTE are exposed to legal battles with the institutions they are supposed to regulate. One such instance is the legal battle between Indian Association of Physiotherapists versus UGC over the recognition of the former as a Deemed University for offering Distance courses in physiotherapy. The matter is under consideration by the court. The point of argumentation is whether UGC or DEC³⁹ are authorised to grant recognition. The recognition by the UGC is subject to the approval by the DEC but the last decision is to be taken by the UGC. In a similar case the Hon'ble Delhi High Court in a judgement⁴⁰ allowed IIPM (Indian Institute of Planning and Management, New Delhi), a self-financed management institute not recognised by either the UGC or AICTE, to use the names of the degrees MBA/BBA, awarded by it. The UGC had expressed its objection to this but the court found nothing objectionable. Nowadays, the growth of fake-universities has become an alarming problem. The UGC has identified some fake-universities but unable to take necessary action against them. "One particular fake-university which is older than UGC has been operating for more than half a century. Within a few years of its establishment, the UGC filed case against the particular university, but taking advantage from the laxity of law, the university is still running (Singh, 2004)". The gravity of the situation will be manifested from the fact that the UGC had been impleaded in as many as 340 cases in various courts of India an expenditure of Rs. 22.06 lakhs had been incurred towards the payment of bills of advocates in 2005-06. (UGC, Annual Report, 2005-06). The year-wise expenditure on legal cases is attached in the Appendix.

Reviewing the functioning of AICTE

³⁹ Distance Education Council

⁴⁰ 2007, IIPM versus UGC

The All India Council of Technical Education(AICTE) was established as an advisory body⁴¹ in 1946. It was only in 1988 that it was accorded its present statutory status. To accord AICTE with the statutory status, the UGC Act was amended to take back the functions of UGC to regulate fees in engineering and technical education. The functions of the AICTE are to undertake surveys in the various fields of technical education⁴² in the country at all levels and to disburse and allocate funds (Singh, 2004 p49).

Failures of AICTE

The performance of AICTE since it became a statutory body has not been impressive. The year of gaining statutory status of AICTE and the advent of new economic reforms⁴³ are very close to each other. The growing commercialisation of technical education has been the characteristic feature of the recent times. AICTE failed to curb the growth of commercialisation of technical education. "Over the years , the system has become commercialised with the result that the Supreme Court has had to intervene thrice , in 1992, 2002 and 2003, permitting private educational institutes to fix their fees' (Singh, 2004). However, capitation fee⁴⁴ is forbidden to be charged by the private institutes. Even AICTE has not been able to stop the private institutes to charge the capitation fee. Despite various newspaper advertisements and notices by the AICTE, the private technical institutes are managing to charge capitation fee through various means.

Some universities including some central universities are offering technical courses through their traditional academic departments without the approval of AICTE. For example, the Psychology departments of Banaras Hindu University and University of Allahabad are offering technical courses like MPMIR⁴⁵ and PGDHRMPsy⁴⁶ respectively. These professional courses are not recognised by either the UGC or the AICTE, even then the courses are on offer on self-financed basis. Moreover, AICTE has seldom

⁴¹ From 1946 to 1988, AICTE functioned under the Ministry of Education as an advisory body.

⁴² Includes both engineering and management.

⁴³ New Economic Reforms took place in 1991.

⁴⁴ The Supreme Court Judgment (2002) in T.M.A.Pai and others versus the State of Karnataka.

⁴⁵ Master in Personnel Management and Industrial Relations, equivalent to Master of Business Administration in Human Resource (MBA-HR).

⁴⁶ Post Graduate Diploma in Human Resource Management and Psychology.

shown interest in classifying professional or technical courses like Master in Business Economics⁴⁷ and Master in Business Administration are quite equivalent to each other, the former falls under academic course and the latter falls under technical course.

The results of data analysis from the third chapter clearly show the functioning of technical institutions. The students hardly know the details of institutes before or at the time of admission. There is no mechanism in place to know the quality of education of technical institutes as available in the case of universities through NAAC⁴⁸. The fate of management education is worse. Institutes in one state claim to have recognition from some university of other state or some unknown foreign university. The actual fee they charged is known at the time of admission as it varies to a great extent from the one given in prospectus. These irregularities reveal the working of AICTE as a regulatory body failing to regulate the technical education going commercialised.

Legal flaws and battles

Like UGC, the AICTE is also suffering from laxity in laws. As a result, when the AICTE tries to regulate technical institutions, they find it easy to take the matter to court. In 1999, in a judgement in the case between the AICTE and Bhartidasan University, the Hon'ble Supreme Court has made it clear that it is not obligatory on the part of a university established by a competent legislature to seek permission from the AICTE to start a course in technical education. In a similar case, the Chennai High Court has forbidden the AICTE to inspect a deemed to be university and mentioned that even if the AICTE finds some discrepancy, it has no right to direct any deemed university to do anything (The Hindu, July 14, 2006). Thus, like the UGC the AICTE also lacks legal rights to be fully effective in controlling the technical institutions.

Problem of Co-ordination

⁴⁷ As awarded by the University of Delhi.

⁴⁸ National Affiliation and Accreditation Council, a statutory body set up by UGC.

There seems to be lack of co-ordination between different regulatory bodies in the field of higher education in India(Singh,2004;HLGSS,2008). The UGC is the highest body to provide recognition to a univeristy or an instituion deemed to be a univeristy. While other regulaory bodies are entrusted with the task of setting standards in their respective fields of operation, the UGC has the task for entire higher education sector. Under these circumstances,the overlap of responsibilities and rights appears to be in focus. When the AICTE was given statutory status in 1988, the UGC Act was to be amaended for the third time in 1984 status of AICTE. If the AICTE were not given the statutory status, the UGC had the enough right to regulate the technical education sector. Even if AICTE was given the job, it could have been given the responsibility of recognising technical institutes also. The flaws in law act s an impediment in the path of these regulatory bodies to regulate their operation at first.

Conclusion

The market can provide optimum solutions only under tight regulation. The regulatory bodies need to be effective in terms of legal backing they possess. Regulation is probably the only answer to the problem of information asymmtry, given the regulatory bodies themselves furnish full information regarding their operation and make the entities to operate in the same maner.

In India, the regulators of higher education need strong legal backing to tackle the growing comercialisation of higher education. There seems no need of any new regulatory body. The existing bodies can deliver the needful, given the requisite authoritry and co-ordiantion between them. Specific legal amendment is required for different regulatories bodies and the overlap in their functioning needs to be removed. The system needs to be incentivised to make it auto-regulatory to lesean the burden of regulatory mechanism.

5. Conclusions and Summary

The growing economic power, India, is characterised with a system of higher education, unevenly grown in terms of quality of education and mismatch between the job-market and the education system, catering to the second largest populous country of the world. With a few top quality institutes of learning, like IITs and IIMs, Indian youths are managing to find job in the world market while the mismatch between the education system and job market has made the problem of unemployment a reality. India higher education system, working on adhoc policies, has recently witnessed the turn of attention towards it. The Birla-Ambani Report (2001), recommendations of National Knowledge Commission (2006 and 2007), recommendations of HLGSS (2008) and setting up of Yashpal Committee to review the functioning of AICTE and UGC reflect the concern for designing the future higher education system. The *de facto* privatisation of higher education got an impetus to grow in the economic environment generated by the neo-liberal policies of the new economic regime. The unmet demand for professional higher education has acted as a catalyst in the growth of the private sector in higher education. The globalising world economy is evident in the sector of higher education also. There have been new trends of marketisation of curricula and programmes (degrees), opening branch campuses or having collaborations with universities of homeland. The same can be seen in India with foreign universities willing to operate either in collaboration with some indigenous universities or to open their branch campuses to sell their programmes. The foreign universities and a large part of the private sector in higher education in India are operating in profitable ventures mostly. They seem to be less interested in investing in high quality infrastructure for higher educational research and more interested in reaping the benefits available by selling the courses in demand.

The changing consideration of role of government in economic activities has been behind the changing patterns of financing higher education. The different countries of the world are experiencing this change in consideration of the role of government in higher education. Not only the countries like U.K, Australia and U.S.A, but countries like the

torch bearers of communism China is also progressing towards flexible and marketised higher education system. There have been debates over Government vis-à-vis private funding of higher education. One of the major debates over public or private provision of higher education is equity-efficiency argument. The advocates of both the systems have been accusing the other for being inequitable. While Blaug and Woodhall, (1979) consider public provision of higher education essential for equitable opportunities across the population; Psacharopoulos (1977) and Jimenez (1987) consider that public provision of higher education is beneficial for the rich and middle classes, as it provides them with access to power. But on the point of efficiency, private system is argued to be efficient and the government system as to be inefficient. The private system or the market which is supposed to be catering to choices of consumers, fails to do so due to the presence of information asymmetry in the market. These asymmetries make the consumers to settle for sub-optimum choices which lead to inefficient equilibrium. Thus, the higher education market is a typical representation of an imperfect market. Consumers fail to judge the qualities of higher education before they purchase as higher education is an experience good, whose production and consumption occurs simultaneously. From sellers' side, they tend to hide information or exaggerate or do nothing to help out consumers to judge the quality of product. In such an imperfect market situation it is hard to believe that market provision of higher education will be able to yield efficient outcome. The private provision of higher education assumes existence of purchasing power with all potential buyers. Those without purchasing power are not the demanders. To be able to avail of the market of higher education with adequate number of buyers, student-loans are advocated.

The market is being advocated but it fails to cater to the choices as the choices themselves are distorted due to the existence of problem of information asymmetry. Information, here, is the basis of action. Without the requisite information, optimum choices cannot be made. Information is valuable in determining the forms of market-perfect or imperfect. Even imperfection of markets can be classified on the basis of availability of information. The various forms or offshoots of information asymmetry such as adverse selection, moral hazard, monitoring cost, signalling or screening and

principal –agent problem, show different natures of inefficiency arising out of asymmetry of information. The market fails to offer efficient outcome under these situations. For firms information asymmetries may act as a source of profitable diversification if the buyers buy more than one product from the firm. Diversification may also take place in reducing the degrees of information asymmetries existing in the market (Nayyar and Kazanjian,1983). For example-engineering colleges nowadays are also offering management courses to be benefited from the existing information asymmetry about the quality of product (education in these cases). Since the students do not know the quality of the product in any case (management or engineering), the colleges can offer both to gain from the existing information asymmetry, as offering two courses will signal something regarding quality of product (education). But for the buyers information asymmetry is seldom beneficial. There are exceptions as in the insurance market. Sometimes consumers benefit themselves by hiding their features such as ailment or bad health practices.

The market in higher education has some features peculiar to it. The production function of the higher education market is not well defined. The firms in higher education use students as input and the same is the output of the system. The selection of students and faculties is determined by the reputation of the institute. A top quality institute mostly admits the best students and employs the best faculties. Thus the hierarchy is kept constant in terms of inputs and factors of production. The firms operating in the higher education sector are mostly Non-profit organization, whose principle of operation differs from the profit seeking firms. They may be in market to follow some mission such as spreading some kind of thought or belief as in the case of missionaries, or to run on the principle of philanthropy. But in the case of non-profit firms, the existence of information asymmetry may be severe as their profit motive cannot be observed due to the very nature of organization. The studies on choices of students in higher education are rare in India while there has been some good number of studies in other countries. This study is an attempt to view the market from buyers’ perspective.

Advocates of marketisation of higher education claim that market in higher education can cater to choices of consumers (students), but it has been observed that the market fails to cater to the choices as there is information asymmetry prevailing in the market. Like other trading markets information asymmetry is a characteristic feature of higher education market. The sellers (institutions) in this market either do not provide (true) information or do not bother to cater to choices of students. The problem of information asymmetry is a general feature of higher education sector but is severe in the case of private institutions of higher education, as seen in the case of Asansol Engineering College (AEC). The problem needs voluntary disclosures by the institutions or regulation of their activities by independent and empowered regulating bodies set up by the government. These bodies need to work in co-ordination with each other to regulate the market of higher education.

Students taking admissions in professional courses are mostly lower middle class background. As evident from the research sample, most of the students (12) of AEC belonged to families having annual income less than Rs. 1.5 lakh whereas most of the students (10) of NITD belong to families having annual income more than Rs. 1.5 lakh. The aspirants from relatively poor family and relatively poor academic background (students of NIT are mostly top rankers⁴⁹ in WBJEE or above average rankers⁵⁰ in AIEEE) are easily lured by the private institutions. These students find it easy to qualify for high ranking intuitions, be private or government funded. Then they are left only with some mediocre or average engineering colleges to choose. They are to make their choices on the basis of information they gather or little information provided by these institutes. Under the constraints of given choice of colleges and courses, these students have to make optimum choice. They depend heavily on whatever information they have. They can only judge the actual quality of the institutions or the education provided when they have spent a considerable time inside the institute pursuing some course. Now if they find the institute to be below their expectation, it is hard to retreat from their decision, as they have to sacrifice their one year or the amount of money they have paid out of their small

⁴⁹ Generally within 1000 rank

⁵⁰ Generally under near 45000

family budget. The information regarding colleges after admission becomes clear to the admitted⁵¹ students. The students generally want to have information regarding placement history, hostel facility, laboratory and library facilities, availability and qualifications of teachers and other facilities availed by the college.

Sources of information for the aspirants- aspirants or students generally consult their senior friends who are senior in class of study. They have faith on them as the seniors do not have any incentive to cheat their juniors. This is not only due to some tradition but this has developed due to the information asymmetry and the bad reputation of the college as well. When students consult their seniors, the seniors inform from their experience and perspective but there may be a mismatch between the expectations of the junior student and that of the senior. That is why after taking admission; students find many pieces of information to be invalid or not exact. As for the students of AEC, they are more about hostel facility, placement history, rank of the college, library and laboratory facility, affiliation of college, availability and qualification of teachers, fee-structure and syllabus and curriculum after admission. The NITD students are also more aware about rank of the college, availability and qualification of teachers, syllabus and curriculum, scholarships and fee-waivers and choice of courses. This is due to the information asymmetry that distorted their choices and made them feel the difference in the functioning of the college on the above points.

Change in expectations-The availability of information brings about a change in the expectations in the choices of the students. When they experience the quality of education being imparted to them, they can project their future on the basis of that. As the expected salary of the students has been found to be a function of their family income and the quality of teaching, they need information to judge their expectations from the future job-market. One important variable family income again explains the fact that students from relatively poor family background opt for mediocre or near average private engineering colleges and they expect just an increment in their social status.

⁵¹ Even after admission, they may fail to gather exact information, may because of their unwillingness to do so or the nature of the institute. One respondent from AEC reported AEC to be a semi-government college where as it is a private one.

The availability of information asymmetry leads the students to incur monitoring cost to gather information before admission. They need to travel to the college to meet their potential seniors to ask them about the indicators of good performance –placement history, infrastructure, other facilities provided by the college. Sometimes they have to spend money on phone calls or discuss to talk to their local relatives to gather information regarding the college. Mostly the seniors are consulted, as 17 out of 27 respondents had consulted their seniors at the time of admission.

The information asymmetry leads the students to select adversely as they cannot know the true quality of the college or the education imparted. They choose the college on the basis of their information which turns out to be false or invalid after they join the college and experience the college themselves.

Before admission, the students cannot observe the actions of either the management or the teachers. Only after the admission, they can observe them. Based on imperfect information, they pretend the system to be working according to their expectations but they find the situation to be going beyond their expectation after admission. They are not provided with information regarding these things in advance. The information regarding these is hard to be provided as these are based purely on experience. These lead to the moral hazard problem for the students.

The colleges provide false signals regarding their facilities to the potential students in the form of placement history, ranking of the college etcetera. As revealed from the data, the students of NITD and AEC both are more informed regarding the rank of their college. The students of AEC also have changed perception of information regarding the placement history. These are the false signals provided by the college or the result of dissemination of information from informal sources.

Regulation of higher education- Existence of information asymmetry is due to the dominance of informal sources of information (family, senior students, past teachers etcetera), absence or inadequacy of formal sources (sources availed of by the institutes or the regulating body) and lapse in regulation of institutes. The institutes need to be made

bound to furnish information regarding them if they are in market to cater to choices. The problem of existence of information asymmetry has two solutions- total government funding where no private institute or market in higher education exists and regulation of market to information to be made available. The regulating bodies in India have not been able to regulate the market in the absence of adequate or proper rights. Rather they are facing challenges by the institutes both private and publicly funded. The acts of the UGC and AICTE need to be amended to make them more powerful to control the market. The privatisation of higher education or marketisation is inevitable in the current scenario. So to ask for total government funding is not the answer at the moment, although it is the first best solution. We have to seek the second best solution that is proper control of the market to protect the rights of the students, keeping in mind the socio-economic background of our population.

Measures to control Information Asymmetry

Stiglitz (2002) has suggested some measure to sort out the problems of information asymmetry. These are incentivisation of the structure and regulation of the imperfect market. The incentive structure can be designed in such a manner so that the firms or the individuals do not have either much marginal benefit or no marginal benefit in creating information asymmetry. The regulation is one of the best options available but the regulatory bodies may themselves be suffering from the problem of information symmetry regarding those needs to be controlled. So, tight and empowered monitoring is essential to sort out the problem of information symmetry. Indian higher education specially needs immediate attention. The growth of unrecognized private colleges and institute is posing threat to the formal structure of the system. The potential students are simply cheated by these colleges who are even not able to create the requisite infrastructure. The problem is pervasive in the whole system. The regulatory bodies need sufficient power to control. The bodies are UGC and AICTE are facing court cases filed by the universities which consider themselves to be autonomous and try to remind the UGC and AICTE about their rights and limitations.

Limitations of the Study

The study is limited in terms of the sample drawn. The students of the engineering were found to be more professional as expected. They denied to respond at the first instance . After much persuasion, some of them agreed to respond but responded cautiously. For example, most of the students of AEC responded in favour of their teachers and lab instructors. They reported that they do not have any problem in class and understand everything in the class. They even contradicted the principal in case of furnishing some information. The authorities agree that some students fail in terminal examinations. Moreover, the responses of these students were incomplete. They responded only to the questions where they can easily defend their college. Such responses were not recorded for the purposes of this study. Most of the very professional students not only made their responses in favour of the college but instructed their juniors to do the same in presence of the researcher himself. Such incomplete biased responses were not included. But the researches do not claim that all the responses taken into consideration for the study are none biased. The effort was made to collect non biased responses from some of the neutral students. At least the respondents did not pretend to show the researcher that they are biased with the college to secure their job placement. They feared that the study will be reported in some newspaper or some where to defame their college. The students from NITD were also the professional ones. They did not bother to answer even if their college seemed to be in better position due to its good reputation. The study claims the originality of analysis and data gathered but admits the limitations the study suffers. Even then this study focuses on the problem it sought to. The study has been able to answer the research questions and test the hypotheses framed.

Conclusion of the Study

The higher education sector in India has been growing and is set for massive expansion in near future. The expansion of the of the capacity is one of the solutions to the problems of the system as discussed in the first chapter. The crucial point is the sustainability of the present capacity along with the forthcoming expansion. The sustainability of the higher education sector is linked with the functioning of the institutes (universities and colleges) of the sector. The market in higher education sector is characterised with information asymmetry along with other problems. The information asymmetry leads the market to sub-optimal solutions and higher education market due to its peculiar features is prone to be suffering from the problem as discussed in the second chapter. The market is operating with distorted choices of consumers, made under the availability of either no information, or little information or false signals as discussed in the third chapter. The students are not in position to take optimal decisions due to the malfunctioning system. The system needs to be controlled to make the functioning of the system sustainable and efficient. The regulating or controlling authorities like UGC and AICTE have been facing serious problems in regulating the market although they have been trying hard. The compliance of norms for regulation of conduct and entry or exit from the higher education system is most important to tackle the grave problem of functioning of the system. The regulatory bodies need to be empowered to enforce the norms as under present conditions legal shortcomings are acting as impediments in their paths as discussed in the fourth chapter. The study has tried to show the existence of information asymmetry in the market as one of the problems involved in the function of the system. The problem is more associated with private sector of the expanding higher education. The public funded institutions are doing comparatively better as has been seen in the third chapter in case studies of NITD and AEC. The study has tried to throw light on the problem of inefficient working of market ,even if the concern for equity is kept aside.

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Sex-wise enrolment

	IX-X			XI-XII			Above XII		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
2002-03	12763695	9032040	21795735	5711435	4856987	10568422	5705305	3811468	9516773
2003-04	13691281	9584674	23275955	6921391	4812003	11733394	6037730	3971407	10009137
2004-05	14222260	10108401	24330661	7464620	5280105	12744725	7135720	4641576	11777296
2005-06	14503940	10503153	25007093	7843971	5603695	13447666	8887049	5506006	14393055

Source-MHRD

Information regarding College (AEC)

Indicators	Time	Excellent(1)	Very Good(2)	Good(3)	Mediocre(4)	Poor(5)	No Idea(6)	No Comments(0)	Average Score
Hostel facility	Before	0	4	9	1	0	5	2	3.29
	After	1	7	6	4	0	1	2	2.62
Placement history	Before	0	7	7	2	0	3	2	2.9
	After	1	9	8	1	0	0	2	2.24
Rank of college	Before	0	1	15	1	0	2	2	3.0
	After	1	0	16	1	0	1	2	2.81
Library facility	Before	0	5	12	0	0	2	2	2.76
	After	2	4	11	1	0	1	2	2.52
Lab facility	Before	3	5	8	0	0	3	2	2.62
	After	3	3	10	3	0	0	2	2.43
Management of college	Before	0	2	13	1	0	3	2	3.10
	After	1	1	7	9	0	1	2	3.14
Affiliation of college	Before	1	2	14	1	0	1	2	2.71
	admission After	2	1	14	1	0	1	2	2.67
Availability of teachers	Before	0	1	14	1	0	3	2	3.14
	admission After	1	1	14	3	0	0	2	2.71
Qualification of	Before	0	5	6	1	0	7	2	3.52

teachers	After admission	1	4	6	2	0	6	2	3.38
Fee-structure	Before	0	2	14	1	0	2	2	2.95
	After	1	5	9	4	0	0	2	2.57
Syllabus and Curriculum	Before admission	0	0	14	1	0	4	2	3.33
	After admission	1	1	11	6	0	0	2	2.86
Scholarships/Fee-waivers	Before	0	0	5	0	0	14	2	4.71
	After	0	0	2	1	0	16	2	5.05
Physical infrastructure	Before	2	8	6	2	0	1	2	2.38
	After admission	4	3	10	2	0	0	2	2.29
Choice of courses	Before	1	4	12	0	1	1	2	2.67
	After admission	1	2	14	2	0	0	2	2.62

Table-IX Information regarding college (NITD)

		Excellent(1)	Very	Good(3)	Mediocre(4)	Poor(5)	No	No	Average
Hostel facility	Before	1	7	7	1	0	0	0	2.50
	After	1	6	5	2	2	0	0	2.88
Placement	Before	2	7	7	0	0	0	0	2.31
	After	2	5	9	0	0	0	0	2.44
Rank of college	Before	0	9	6	1	0	0	0	2.5
	After	1	12	2	1	0	0	0	2.19
Library facility	Before	1	8	7	0	0	0	0	2.38
	After	1	7	6	2	0	0	0	2.56
Lab facility	Before	2	5	8	0	0	1	0	2.44
	After	1	5	9	1	0	1	0	2.75
Management of college	Before	0	6	9	1	0	0	0	2.69
	After	0	6	6	3	1	0	0	2.94
Affiliation of college	Before	0	1	9	5	0	0	1	2.27
	After	1	9	5	0	0	0	1	2.27
Availability of teachers	Before	0	9	7	0	0	0	0	2.44
	After	1	8	7	0	0	0	0	2.38
Qualification of teachers	Before	3	4	9	0	0	0	0	2.38
	After	3	9	4	0	0	0	0	2.06
Fee-structure	Before	0	7	6	3	0	0	0	2.75
	After	7	6	3	0	0	0	0	2.75
Syllabus and Curriculum	Before	0	5	10	0	1	4	2	2.81
	After	8	7	1	0	0	0	0	2.56
Scholarships/Fee-waivers	Before	0	5	8	0	0	0	3	3.25
	After	0	7	8	1	0	0	0	2.69
Physical infrastructure	Before	0	4	12	0	0	0	0	2.75
	After	0	8	5	2	1	0	0	2.75
Choice of courses	Before	3	3	10	0	0	0	0	2.44
	After	2	7	7	0	0	0	0	2.31

ZAKIR HUSAIN CENTRE FOR EDUCATIONAL STUDIES
School of Social Sciences
Jawaharlal Nehru University

Questionnaire for Engineering students

Section-A

Socio-economic profile of the Respondent

1.	Name	
2.	Sex and Age	
3.	Family-income	
4.	No of earning family members	
5.	Nature of job(s)	
6.	Family-size	
7.	Name of College/Institute	
8.	Details of Course a) Year/Semester b) Specialisation	
9.	Educational Qualification of family-members	
	a) Father	
	b) Mother	
	c) Uncle	
	d) Aunt	
	e) Grand parent(s)	
	f) Brother(s)	
	g) Sister(s)	
	h) Other	
10.	Caste	
11.	Percentage of Marks obtained in Matriculation	
12.	Name of the Board	
13.	Percentage of Marks obtained in +2	
14.	Name of the Board/Council	
15.	Name of the Entrance Exam	
16.	Rank in the Entrance Exam	a) Gen- b) Caste-wise- c) Gender-wise-

6. What do you need at this moment to do better as compared to what you are doing?

7. What is your advice for new-comers/aspirants?

8. What is your expected salary?

9. Whether your teachers are available outside class to help?

10. Are you satisfied with the assistance or demonstration in the laboratory?

11. Are you satisfied with the quality of teaching?

12. Do your teachers cover the content the syllabus?

13. Do you find your syllabus meaningful in terms of practical use?

14. What were your sources of information at the time of admission?