

SUSTAINABILITY OF FOR-PROFIT POSTSECONDARY INSTITUTIONS FOR NON-PROFIT PURPOSES: THE CASE OF CORPORATE UNIVERSITIES IN THE U.S.

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I. *Introduction*

Increasing involvement of the private sector in postsecondary education has been one of major trends in higher education over recent decades (Burd 1998; Strosnider 1998). The emergence of for-profit, degree-granting postsecondary institutions has generated serious anxiety among traditional colleges and universities because of the possible loss of students to these institutions (Bailey, Badway & Gumport 2001). By the late 1980s, there were already over 4,000 for-profit, or proprietary, institutions enrolling an estimated 1.8 million students (Lee and Merisotis 1990). These institutions were yet not competing with traditional non-profit colleges and universities as these for-profits were mostly “career colleges” offering occupationally oriented curriculum or specialized trade training. In the 1990s, however, there emerged for-profit AND degree-granting institutions that offer programs traditionally under the purview of non-profit institutions. Between 1989 and 1999, the number of for-profit, four-year institutions grew by 266 percent (Kelly 2001). Most of them, approximately 650 institutions, were seeking accreditation, and several have been fully accredited by regional accrediting agencies (Morey 2004).

Surprising fact is that students at non-profit institutions received about 30% of federal financial aid under Title IV (NCES 2000). In theory, government pays the costs of education when and where the benefits of such education are captured collectively by society rather than by self-interested individuals or private institutions¹. This implies that, under for-profit management, but subject to public funding, private postsecondaries are expected to generate social benefits that are captured by society at large. This raises the question of how for-profit institutions balance their private interests on the one hand and social responsibility on the other. In the area of education, public and private benefits are largely complementary rather than antithetical, but this does not mean that public interests are sufficiently satisfied under for-profit management, where the major objective is to generate profits for private stakeholders.

This paper discusses whether, how, and to what extent for-profit postsecondary institutions serve a public purpose. I focus on the corporate university, one of the major for-profit postsecondary formats that experienced significant growth in the United States over the past three decades. In the 1980s, there were about 400 corporate universities in the U.S. and many of these were open to the general public. Some of them provided general education and academic degrees just as traditional universities and colleges do. But since the late 1990s, the

¹ The rationale for government to fund education will be discussed in detail in the section of theoretical framework.

emphasis of the corporate university to respond to social needs gradually diminished. Their curricula became more corporate-specific with an increasing emphasis on the enhancement of corporate performance. The number of corporate universities grew significantly in the 1990s and reached 2,400 in the mid 2000s. Most of them continued as proprietary institutions that solely serve the sponsoring company or, at best, the industry at large.

Looking at the experience of corporate universities, I attempt to explore the sustainability of the for-profit form of postsecondary education to perform for public interests. I will examine the rationale for private institutions to fund postsecondary education, why corporate universities attempted to serve public interests, why they changed their emphasis from the public to the private role of education, and what their shift of emphasis suggests for the operation of postsecondary education.

In the following section, I first review the theoretical framework that explains funding for postsecondary education, with special focus on difference in funding purpose, structure and outcome between public and private sectors. I then discuss the development of corporate universities over the past three decades: why they proliferated so quickly, and how and why their role and interests in the operation of postsecondary education changed. Concluding remarks follow.

II. *Theoretical Framework*

There are three major sources that fund postsecondary education: 1) public organizations including national and local governments, 2) firms and industry, and 3) individual students or workers. We assume that each of the three parties has its own rationale to bear the cost of education or training, while each of them has its own expectation of positive outcomes resulting from the spending. In other words, education and training are investment goods that generate positive returns. For instance, individuals who invest in their training can expect higher earnings generated from higher productivity realized by the training². Firms invest in employee training because those trained employees tend to generate more, which will bring about higher earnings for their firms. A national government pays the cost of education with a view to the well-being of the nation's people so that the nation will have better economic performance and social welfare. In the following section I utilize the Human Capital Hypothesis, the major theoretical framework that explains education funding, and elaborate the rationale of funding for government, private company or industry, and individuals, respectively.

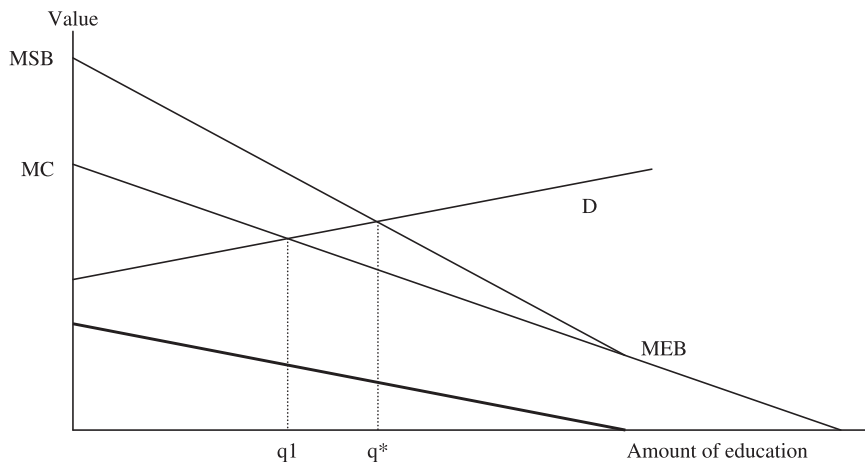
1. **Education/Training Funded by Government**

Public funding for education is necessary where and when such education addresses social concerns that are not adequately met through spending by individuals and/or industries³. The

² This does not mean that individuals undergo education or training only to gain additional earnings. The benefits of education are not limited to monetary gain but include the ability to appreciate and recognize cultural and other services, the cultivation and discovery of potential talent, a chance to give the next generation better education, etc. (Cohn 1990). Also education could be a consumption good in the sense that it yields utility (satisfaction) at the time the education is given.

social benefit hypothesis on education suggests that government pays the costs of education to the extent that the benefits of the education belong to the society at large, but individuals who take the education do not capture, or do not think that they will capture, the benefits (Cohn and Geske 1990). Such benefits are also called “external benefits” including, in the area of postsecondary education, benefits that promote full employment (and thus reduce unemployment compensation), that reduce public health costs, that enhance the adoption of technical change, and that promote public service in community and state agencies⁴. Unlike direct monetary benefits, these external benefits are impossible to quantify. But we do have some framework to evaluate the magnitude of these external benefits. Figure 1 shows the relationship between cost of education, private demand for education, social benefit of education (social demand for education), and amount of education that should be provided.

FIG. 1



The marginal cost curve (MC) for education shows the cost of education as more education is done. The demand curve D measures the marginal private benefits of education to a worker or to a company. The worker or the company will choose to invest q_1 in education, at the intersection of the demand and marginal cost curves. But education generates external benefits to the society. Thus marginal social benefits MSB are higher than marginal benefits D. The difference is the marginal external benefit MEB. A self-interested individual or firm invests q_1 in education, but the efficient level of output is q^* at which the marginal social benefit of additional education is equal to the marginal cost of the education. This is found at the intersection of the MSB and MC curves. Thus government pays the costs to raise the quantity

³ See Bowen (1977), Levin (1983 and 1985), Owen (1974), and Weisbrod (1964) particularly for the discussion of federal intervention in educational programs.

⁴ McMahon (1982) provides a brief listing of major external benefits: 1) necessary to effective democracy and democratic institutions, 2) important to efficient markets and the adoption to technical change, 3) lower crime rates and reduced penal system expense, 4) lower welfare, Medicaid, unemployment compensation, and public health costs, 5) reduced imperfections in capital markets, 6) public service in community and state agencies, and 7) complementarities in production.

of education from q_1 to q^* , which amount of education would not be provided in the absence of the governmental intervention.

2. Corporate and Industry-Sponsored Education/Training

Based on the Human Capital Hypothesis, the more the education and training are specific to a firm, the more the firm is willing to pay the cost⁵. Based on Becker's formulation, if education or training is specific to the firm, both the company and the worker jointly pay the cost. Specific education/training increases the value of marginal productivity (VMP) of the worker with his current firm, while his productivity at alternative firms is lower and so is his alternative wage. The firm is willing to pay for specific education/training since it can pay a wage above the alternative wage of the worker but below his marginal product. This wage arrangement gives an incentive to the worker not to quit, and to the firm, not to lay the worker off. The relation can be expressed as:

$$W_a < W_2 < VMP_2 \quad (1)$$

where W_a is the alternative wage, W_2 is the wage in the post-training period, VMP_2 is the value of marginal product in the post-training period. The more firm-specific human capital a worker has, the more destructive a separation would be, and therefore the less likely it is that the match will be broken. Thus the firm is less likely to lose the investment that they made in the worker.

Also firms are more willing to invest in training when returns on training can be realized in a relatively short term. Suppose that training takes place in the first period. It costs T dollars to put a worker through the training. The total costs of hiring a worker during the first period can be written as the sum of training costs T and the wage W_1 paid to the worker during the training period. Assuming that no training occurs in the second period, the total cost of hiring the worker in the second period simply equals the wage. So we can write the profit-maximizing condition in an equation as follows:

$$W_1 + T + W_2/(1+r)^n = VMP_1 + VMP_2/(1+r)^n \quad (2)$$

where r is the rate of discount, and n , the number of years. Then let's define a new variable G as:

$$G = VMP_2 - W_2/(1+r)^n \quad (3)$$

In the post-training period, the worker contributes VMP_2 dollars of revenue to the firm, but the firm only pays the worker W_2 dollars. The variable G thus gives the discounted gain to the firm of having a trained worker in the second period. This shows that the greater the n , the lower the G , indicating that as the number of years increases, the gain for the employer declines. In order to gain higher G , the employer has to realize greater VMP_2 at lower W_2 . This, based on equation 1, has to be realized by making VMP_2 and W_2 lower than W_a , implying that training

⁵ Becker (1992) argues that there are two types of on the job training, general training and specific training. General training is defined as the type of training that, once acquired, is equally useful in all other firms. Specific training is the type that enhances productivity only in the firms where it is acquired, and the value of the training is lost once the worker leaves the firm.

should be as specific as possible to the firm.

3. Education/Training Funded by Individuals

Our theory suggests that individual workers bear the costs of training when such training is general and portable to other companies. General skills are productive in any firm, thus workers with such skills can earn higher wages elsewhere. Accordingly investment in general skills has to be made by employees. From a company's perspective, in the post-training period, the worker's value of marginal product increases to VMP_2 in all firms in equation 1. Thus many firms are willing to pay the worker a wage equal to VMP_2 . So the second period wage, W_2 , will be equal to VMP_2 . As a result, in equation 2 and 3, the variable G is zero, so that the firm does not experience any gains from providing general training because it must raise the post-training wage to match the worker's post-training value of marginal product.

In reality, most training is a mixture of general and specific training, thus many employers do pay the cost of general training (Bishop 1994; Lynch 1992). But formal education programs such as the MBA or non-traditional skill development such as many IT-related certificate programs clearly provide portable, general skills. If a firm pays the tuition of workers who enroll in MBA training, many workers would quickly realize that the firm is offering free general training. The firm would certainly attract a number of job applicants. But because the firm cannot legally forcibly retain its employees after they receive their degree, the workers could take advantage of the free training opportunities and then could move to a firm that offers them a wage commensurate with their newly acquired skills. The firm that paid the tuition faces the worst of all possible outcomes: It pays for the training but gets none of the benefits. A profit maximizing firm thus tends to pass on the general training cost to workers.

III. *The Case of Corporate University*

1. Growth of the Corporate University

Corporate universities are for-profit postsecondary education and training institutions that are wholly owned and controlled by a work organization or consortium. They use the title or concept of "university" to emphasize the value of continuous learning rather than trade-oriented training or other work skill development. They usually open their programs to the general public, and often a pathway to advanced academic degrees (Mitchell 1987). Corporate universities are thus proprietary postsecondary institutions that attempt to serve not only their internal workers but also the interests of larger public.

The first corporate university was established in 1953 by General Electric, with a primary purpose being the development of business leaders. In the 1960s, Disney University, and then McDonald's Hamburger University followed. By the early 1980s, there were already 400 corporate universities in the U.S. The real growth however, occurred in the 1990s when the number of corporate universities increased to 1,600, which consisted of 40 percent of the Fortune 500 companies (Lipin 2001). A more recent estimate shows that there are 2,400 corporate universities (Nixon 2002). Some 80 percent of Fortune 500 companies either already have a corporate university or are planning one. Corporate University Xchange (CUX)

predicted that, if the corporate universities increase at the current speed, there will be more than 3,700 schools overall, which exceeds the number of traditional universities in the U.S. (AACSP 1999; Meister 2001).

2. Why the Increase?

Why have corporate universities been growing so rapidly? Why were they different from traditional corporate training? The emergence of the corporate university is a cross-industrial phenomenon. Also almost all occupations and positions are likely to study at corporate universities. Why then have corporate universities been accepted so widely, and by such various populations?

On the supply side, many firms needed to set up a system to train workers or potential workers who can cope with rapidly changing business environments such as technological advancement and the globalization of the economy (Morey 2004). On the demand side, workers realized that they need to update their skills constantly in order to secure productivity and employment (Green 1999). Adult learners who are already in the labor market have diversified needs as well as constraints in time and place for learning. They thus seek various means and channels for learning including on-line courses and a 24-hours a day, seven-days a week learning environment. Flexibility in the method of providing instruction, particularly the use of electronic learning tools, is a major strength for corporate universities (EFMD 2002). In this respect, some authors argue that corporate universities met needs that were unsatisfied at traditional universities in flexible provision of education for adult learners, particularly through the application of learning technology (Nixon and Helms 2002; Peitrykowski 2001).

I will describe below the factors that explain the growth of corporate universities, namely, 1) technological advancement and business globalization, 2) diversification of learners, and 3) delay in the response of the traditional university to learning needs in the postsecondary market.

1) Technological advancement and business globalization

It has been well discussed over the past two to three decades that the demand for skilled workers has increased continuously due to skill-biased technological change (Bound and Johnson 1992). Due to the rapidly changing technologies and business environment, workers have been expected to constantly update their skills and knowledge. Changes are not only in the speed of technological advancement, but also in the nature of skills required in the workplace. Especially crucial are such soft skills as cognitive skills, problem solving, and decision making. In the increasingly complex workplace, industries need workers who can solve problems and take initiative and responsibility in less well-defined circumstances (Bailey 1995; Barley & Orr 1997; Murnane & Levy 1996). These skills, unlike skills for specific business or production processes, are hardly developed in an object-oriented, time-framed training environment. Rather, the development of these skills needs constant and continuous learning in both conceptual and applied fields. In other words, new skills development requires education/training that allows workers to integrate practical skills with theoretical ones. Corporate universities, as a form of higher education, were designed to go well beyond the traditional corporate training, aiming at providing conceptual knowledge, yet still allow learners to apply the concepts to a real business environment.

Globalization of business is another industrial factor that accelerates the growth of

corporate universities. Morey (2004) states that a major force for the growth of for-profit higher education is the “globalization of economic, cultural, political and intellectual institutions, along with the increasing inter-dependence of nations.” In the globalized economy with its rapid technological advancement, people need to constantly update not only their technical or trade-related skills, but also scientific, technical and socioeconomic knowledge. Technological change and economic globalization, on the one hand force workers to acquire a broader range of knowledge and skills, and on the other hand enable them to access such knowledge and skills at any time and from anywhere in the world through the use of advanced technology. Private corporations, particularly large ones, have global business networks as well as technologies that connect them. They thus have the strength to cope with globalization and technology use.

2) Diversification of learners

Levine (2001) estimates that at the end of the 1990s, only 16% of college students fitted into the 18-24-year-old, traditional group for undergraduate college. Over 60% were working, over half were female, and nearly half attended college part-time, and these markets are growing. Another study predicted that adults are going to be going back to school every seven years or less (Sausner 2003). The National Center for Education Statistics estimates that there will be 9 million part-time or over-25 postsecondary learners who will be enrolled in the U.S. in 2010. Thus working adults or “non-traditional students” have been, and will be, the major student population for the postsecondary market.

Increase in these non-traditional, adult learners means that students’ needs in learning became increasingly diversified. Also many adult learners tend to prefer distance education so they can study at home, in the evening and on weekends. They are usually older, part-time, and working often with children, and do not want to pay for services they do not use, such as recreational facilities and non-curriculum activities for which traditionally colleges automatically charge (Levine 2001).

Together with the needs among workers to constantly update their skills, for-profit institutions have an important advantage in their ability to cater to adult students. A term that is frequently used for the service provided by for-profit institutions is “flexibility” in responding to the needs of students. Non-profit institutions see students as “customers” and emphasize their capability of providing services their customer needs. Traditional institutions, meanwhile, are believed less likely to be responsive to the needs of learners, which is one of the major reasons that traditional universities may lose their student market against for-profit competitors (Nixon and Helms 2002).

3) Traditional vs. for-profit in a changing education market

On the one hand, complex technologies have invaded the day-to-day work of almost all job categories, raising the skill bar in most businesses. On the other hand, the postsecondary education market has increasingly been occupied by adult, or non-traditional students. It is argued that traditional universities and colleges have been far from sufficient in responding to the market change. Even the most responsive programs, those of the business schools, have been criticized on the grounds that they hardly satisfy the expectations of employers (Ramaswamy 1992). To counter the competition, some business schools are launching on-line degree programs establishing or re-focusing continuing education divisions and forming

partnerships with corporations. But, the problem then becomes the blurring of the roles of business schools who cannot decide whether they want to be pure academic institutions or businesses (Nixon 2002). In the meantime, for-profit educators have been taking advantage of the demand, ramping up offerings in job areas where higher demand is predicated. They usually flexibly accommodate both on-line and class instruction, thus responding to the needs of adult learners for whom flexibility is a requirement.

Corporate universities, in this respect, have had an advantage in filling the emerging market. They blended learning and work into one activity, using the existing corporate network infrastructure for on-line learning and knowledge management. They quickly responded to technology change and changes in the business environment. This is why corporate universities have been receiving close attention as a form of institute that could share the role of higher education.

3. Changing Role of the Corporate University

Corporate universities increased consistently over the past decades due to technological and other socio-economic reasons explained above. The role, or focus, of corporate universities, however, was not consistent through their growth history. I will now review the changing role of corporate universities as between the 1980s and the 2000s.

1) 1980s to the late 1990s

Around the beginning to mid-1980s, when the corporate university was first studied through detailed research (Eurich 1985; Hawthorne 1983), it was described as a “departure” from conventional corporate training. Many corporate universities were providing much more than corporate-specific training and education, opening the programs to the public, and offering courses that would lead to advanced academic degrees. Motorola’s Training and Education Center, for instance, was offering a broad spectrum of curricula ranging from basic classes in math, writing and science, to advanced-degree courses in business, engineering and technology. The Aetna Institute of Corporate Education had courses for a basic-business-skill curriculum, remedial reading, oral communications and writing, which are designed to retain lower-level workers for jobs higher up to the corporate ladder. This effort also allowed the company to hire employees with little formal education — people it wouldn’t otherwise consider, which in turn helped the company cope with the labor shortage that was one of the major concerns for high-tech-related companies in the 1980s.

Corporate universities in the 1980s were also aggressive in offering academic degrees. Around the mid 1980s, close to 100 companies — Eastman Kodak Co., Westinghouse Electric Co. and NCR Corp. among them — offered in-house course work that would potentially lead to academically accredited degrees. These emphases on broader, general skills as well as on academic degrees were to respond to changes in the industrial environment and the education market that were discussed in the previous chapter. The motives behind the education efforts at Motorola, for instance, were in part a response to rapidly changing technology, which had created a workforce whose skills often were outdated. Motorola also felt that their training program should help improve the skills of entry-level workers who “have nowhere near the mathematical competence of our Japanese competitors,” according to Edward Bales, at that time the director of the Training and Education Center (Knight 1995). He was citing a federally

funded study result that elementary-school pupils in Japan had reached the same level of math competence as junior-high school students in the U.S. Weak math and science and other basic education in fact was a national concern in the U.S. in the 1980s, as was well publicized by the government and academics through such influential studies as *Nation At Risk* (NCEE 1983), and *Made in America* (Dertouzos et. al. 1989). This implies that corporate universities were responding to public needs and interests, which contribute to both private and social benefits.

2) Since the late 1990s

Since around the late 1990s, however, these emphases of the corporate university to respond to a broad range of industrial and national concerns gradually changed. The basic idea to offer much more than conventional job training remained, or even increased. But their emphasis became more corporate-specific with a core function being a strategic tool to enhance corporate performance. Such concepts as “lifelong learning,” “learning organization,” and “learning as an employee benefit” have taken a back seat to “increasing shareholder value” (Gordon 2003). This is a “new beginning” in the corporate university wave, which gave Mark Allen, the president and CEO of Corporate University Xchange (CUX), “a feeling about corporate universities that “CEOs now expect strong alignment with strategic objectives, greater accountability, a measurable ROI, and greater efficiency.” Allen also said, “they [CEOs] don’t care about competency models as much as they care about production quotas, sales figures, and repeat sales. They also expect their learning organizations to take on greater responsibility for driving strategic cultural change. Increasingly, they are turning toward corporate universities as the most viable and proven solution to these challenges” (Unpublished interview—noted as T&D in references).

Indeed, in a survey conducted in 2001 by Corporate University Xchange (CUX), the heads or professionals of corporate university management at 131 organizations replied that the most critical areas for operating a corporate university are: 1) Developing a vision and business plan, 2) Assessing and understanding clients’ needs, 3) Creating partnerships with vendors/universities/subject matter experts to assist in developing/delivering course programs, 4) Determining a pricing strategy for program offerings and services, 5) Training members of the corporate university staff on consultative selling/client management, and 6) Understanding corporate university financials. (CUX 2002)

As the report points out, this clearly reflects that companies require their corporate universities to be accountable like any other business functions of the company. The corporate university has increasingly become a “business unit,” rather than an education and training unit under the management of human resources.

4. Why is the Role Changing?

What’s behind the shift of the corporate university to a firm-specific strategic business institution? I found that economic transformation and difficulty in acquiring accreditation were major reasons for corporate universities to turn their public-focused education back to private interests.

1) Economic transformation

The first reason appears to be changes in the economic environment over the past two

decades. When the strengthening of public education was called for in the 1980s, it was right after the time that the U.S. trade surplus fell behind Japan and Germany. The U.S. found that lower basic academic competency and motivation for learning among American workers as compared to international competitors were one of the important reasons for the declining industrial performance. It was a concerted effort of the government and industries to level up the competencies of the U.S. workforce. Thus the conceptual framework of the corporate university included “education for national workforce” largely bearing societal interests and benefits.

In the 1990s, the U.S. economy boomed. It was a seller’s market for employees, who were courted by organizations hungry for talents and desirous to retain them. Particularly in such industries as IT, telecommunications and professional service industries, employer-sponsored education was one of the important employee benefits to attract able workers and to retain them. About this time, companies scrambled to launch their own corporate universities. In their programs, allowing workers to go to university for credit and a diploma was a common incentive to attract employees during worker shortages.

Then in the 2000s, bubbles began to burst. The economy took a downturn; downsizing was rampant; training budgets were slashed; and after September 11, 2001, the training and conference business all but ground to a halt. It is still true that, in order for business to stay competitive, firms have to be continuous knowledge-based organizations. But the way that the corporate university is operated needed changes in order to generate a visible and short-term return to the sponsor company. A CUX report (2002) revealed that many of the top challenges at corporate universities are financial, such as reducing costs and improving corporate revenue growth, profitability, and employee productivity. This requirement to generate short-term corporate benefit affected the content taught in the program. The curriculum became corporate-specific, that is, well aligned with corporate business guidelines. This is to increase workforce productivity relatively in the short-term, and even more importantly, not to lose the company’s investment in employees who have taken training courses, should they leave the company. This is exactly what the theory of private funding in training and education predicts. The profit-maximizing company pays the cost of training and education if the training and education are specific to the company. In cyclical downturns, in particular, companies expect their return to investment to be yielded in the short-term.

2) Separation from accreditation

The definitions of corporate university that Howthorne stated in 1983 include that the corporate university is an institution that offers postsecondary degrees. Eurich (1985) also saw the corporate university as a degree-granting institution. She identified eighteen corporate universities that offered degree programs in 1985, and predicted that the number would grow. A recent study by Thompson (2000), however, shows that throughout the U.S. and Canada, there are only five corporate universities that fully satisfy the criteria for accreditation, and seven other institutions that partly satisfy the criteria. This is far less than what Eurich and Howthorne predicted in the early 1980s.

There are several reasons for a lack of corporate universities with accreditation. The biggest reason, some argue, are the stringent and bureaucratic requirements for receiving accreditation (Allen 2002). There are a number of requirements that institutions have to clear in order to acquire accreditation, and companies may think it not worth their time and effort to

overcome the obstacles. Rather, more corporate universities have set up a partnership with accredited universities, and let employees receive credits and degrees from these institutions. But this is still not as much the case as was once predicted. As mentioned previously, traditional universities are often criticized by corporate people for out-dated curriculum and instructional tools, and inflexible course design. So if it's other than using the availability of university credits to attract able workers, firms may not feel substantive benefits from working with traditional higher education.

If the corporate side wants to partner with traditional institutions, it expects to tailor the program to meet the needs of the business as much as possible. From the university side, an increasing number of traditional universities have been interested in working with corporate partners, searching for a new market. But many academics are still critical of entering the corporate market. Traditional schools, particularly those that have a strong liberal arts culture, often want to be "out of touch" with the needs of business. They are often critical of industry-academic integrated instruction and what they call commercial-oriented course design (Aronowitz and Giroux 2000). The corporate university, once expected to merge the characteristics of corporate training and university education, therefore, has hardly met this expectation. Both parties have reasons for working together, but both also have their own reasons for not working together. In some instances, corporate universities and traditional universities are partners with each other, but in others, they are competing with each other.

IV. *Concluding Remarks: Sustainability of Corporate Universities for Non-profit Purpose*

The rationale for the public sector to fund postsecondary education is that it generates social benefits including economic growth and full employment; scientific and technological progress, educational research and information; and equality of opportunity. Indeed these areas were closely related to the emphasis of the corporate university in the 1980s, i.e., to cope with and enhance technological development; to attain efficient employment with higher skills; and to provide effective higher education programs with flexible course design that enables greater access, and with curricula better adapted to the real workplace. This suggests that corporate universities that retained these characteristics were potentially subject to receiving funds and other support from public money.

The role and objectives of corporate universities since the late 1990s, however, deviated from this social role and these objectives. Most corporate universities have become strategic vehicles to attain the business goal of individual companies, and the once-stated social responsibility for adult education has faded out. This was due to the economic downturn that made firms focus on private benefit, and also to difficulty in acquiring accreditation for formal university. This implies that the sustainability of corporate universities for non-profit purposes is largely affected by the business capacity of the sponsoring corporations. Firms invest in social benefits to the extent that their corporate benefits are protected. In order to sustain the activities of corporate universities, they had to change their focus; from public-oriented programs that were sought by both government and employees and that were also enabled by the economic boom in the 1990, to corporate- or industry-specific programs that generate visible and relatively short-term return to the company. This follows the theory of private

funding in education explained in the section of theoretical framework. And this also suggests that if the social benefits in the operation of corporate universities are narrowed down to private ones instead of public, there is less rationale for government to pay the cost of education. Individual workers in the meantime would pay the full or partial cost of the education, if they expect private return generated through the education, which in fact has been the case in the recent corporate universities.

This paper concludes with a suggestion that the funding structure for education should be streamlined based on the specific roles and objectives of education providers. By identifying who funds, and why, and who are the beneficiaries, the role and responsibility of postsecondary education can be clarified, then the structure of funding will be well organized.

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