Capital Romance: Why Wall Street Fell in Love With Higher Education

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I. Introduction

The number of publicly traded degree-granting providers of post-secondary education in the United States grew at a steady pace throughout the nineties. Following the early example of DeVry, Inc. [DV] in 1991 and the Apollo Group, Inc. (University of Phoenix) [APOL. UOPX] in 1994, 10 degree-granting providers of postsecondary education went public during the second half of that decade. Most grew at a brisk pace, often through acquisitions. The last five years have seen more acquisitions (e.g., Blumenstyck 2003) and consolidation among the competitors constituting the field at the end of 1999, a remarkable new competitor, and the unstoppable emergence of a vibrant e-

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¹ These 10 degree-granting providers were: The Argosy Education Group [ARGY], Career Education Corporation Education [CECO], Computer Learning Centers [CLCX], Corinthian Colleges [COCO], Education Management [EDMC], EduTrek International [EDUT], ITT Educational Services [ESI], Quest Education Corporation [QEDC, formerly EDMD], Strayer Education [STRA], Whitman Education Group [WIX]. Capital letters in square brackets denote the symbol under which these companies are, or were, traded; in the present text these symbols are also used as short-hand to denote these companies.

learning industry segment to which all major publicly traded degree-granting providers of post-secondary education laid claim to various degrees.² Together, the remaining publicly traded providers of post-secondary education currently command about 4 - 5 percent of the revenues flowing into higher education each year -- most of it originating from Title IV programs -- and more than about 10 percent of the nation's campuses.

To sell to investors ownership in a new breed of companies that in addition had to compete against incumbent providers that do not have to produce profits to please investors and are favored by numerous regulatory and tax breaks including tax-deductible donations (Facchina, Showell, & Stone 1993), investment bankers and market analysts clearly had to have "compelling stories" to tell. This chapter presents an inventory of the reasons that analysts gave at the end of the nineties, i.e. before consolidation started to reduce the number of competitors constituting the field during the year 2000. In a sense, the years before that consolidation – roughly the second half of the nineties — can be thought off as the take-off phase of the industry. Certainly, throughout those years the viability of a for-profit industry was not an uncontested idea.

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² As regards consolidation, ARGY was acquired in September 2000 by EDMC, EDUT was acquired in October 2000 by CECO, QEDC was acquired in July 2000 by Kaplan Inc., a subsidiary of the Washington Post Company [WPO], and WIX was acquired in June 2003 by CECO, while CLCX - brought down by the incompetence of its management - filed in January 2001 a chapter 7 bankruptcy petition which halted all its operations. No comparable companies went public during that time. This has left, as of March 2005, as the dominant publicly traded providers of post-secondary education providers, APOL (with its University of Phoenix online subdivision for which it issued a tracking stock that traded independently between September 2000 and August 2004 under the symbol UOPX on the NASDAQ), CECO, COCO, DV, EDMC, ESI, STRA, and Laureate [LAUR, until May 2004 SLVN for Sylvan Learning Systems, Inc.]. The latter is a remarkable new competitor because it established its post-secondary education credentials though a string of fast-growing and apparently quite profitable universities located in Europe as well as Central and South America (see, however, the important caveat in Smith, 2004); it then - per acquisition and after a failed attempt to make its own Caliber Learning Systems (CLBR) a success - moved into e-learning with the acquisitions of Walden University and National Technical University. It is noteworthy that all publicly traded providers of for-profit education now have e-learning divisions although it took some a couple of years to understand that they could not do without, as some initially had claimed (Ortmann 2000; 2003). As of mid-March 2005, the eight companies just enumerated all had market capitalizations in excess of one billion dollar, ranging from APOL (\$13.7 billion) to DV (\$1.4 billion).

Apart from compiling an inventory of arguments, I attempted to assess the relative importance of their reasons through a questionnaire that I sent to analysts that followed the education industry in 1999. The merits of these arguments I evaluated in light of modern economic and managerial theories of firms and markets. Drawing on portfolio recommendations of my correspondents, I also evaluated their predictive powers regarding the universe of companies discussed in this chapter.

The chapter is organized as follows: The next section briefly reviews the role of market analysts and then describes how I collected and evaluated the arguments that analysts used to persuade investors, at the end of the take-off phase of the industry. The third section summarizes the results of a questionnaire through which I attempted that evaluation. The following section discusses how analysts' view of the fledgling for-profit segment of post-secondary education compares to modern economic theories of firms and markets. In the conclusion I discuss briefly recent developments.

II. An inventory of the arguments that analysts used to persuade investors

The market for market analysts. In the Fall of 1999, the education industry – although the second largest industry in the USA – was followed only by a small number of analysts. A *Wall Street Journal* article suggested that "half a dozen market analysts" (13 August 1999, p. A1) tracked education companies then.³ So small was the set of analysts that the *Wall Street Journal*'s 1999 installment of its annual "All-Star Analysts" section did not even list the education industry as one of its 55 industry categories. (It did

³ Indeed, according to *Multex.com* [www.multexinvestor.com], an average of six analysts followed the publicly traded degree-granting companies at the writing of the first draft of this manuscript, ranging from one for smaller ones such as EduTrek International, Inc. to 14 for the Apollo Group, Inc., by all measures the largest one then.

list hospitals and HMOs -- the largest industry in the USA and an industry which went through a process of privatization about a decade earlier that many consider a template of things to come in the education industry, e.g. Hansmann 1994.)

What do market analysts do? Through the study of companies, managers, "business models", and the markets in which they are put to the test, market analysts try to identify likely "winners" and "losers". ⁴ The resultant "buy" and "sell" recommendations of various gradations are meant to help managers of mutual funds, pension funds, and retail customers to beat the market averages.

It is a well-established fact that an overwhelming number of mutual fund managers (and we can assume, pension fund managers) do not benefit on average from that advice (Carhart 1997). Furthermore, the implosion of Internet companies during 2001 left many a retail customer with fractions of the value of stocks that analysts touted highly and publicly (but derided in drastic terms privately).⁵

The basic problem was that market analysts were often affiliated with securities houses that are involved in initial and follow-up public offerings ("underwriters"). ⁶ Such an arrangement puts market analysts in a conflict-laden situation as they may feel

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⁴ While market analysts have somewhat different functions than those of their colleagues who engineer equity offerings, or venture capitalists, it is likely that the pros and cons of a particular proposition are more or less the same across these three groups of market participants. The most important difference is that venture capitalists are the ones to come into the game early, and hence face a higher degree of uncertainty and risk which is reflected in venture capitalists' higher hopes for returns (KnowledgeQuest 1999).

⁵ The Investment Protection Bureau of the New York State Department of Law provided numerous examples of such misrepresentation when it went after Merrill Lynch in April 2002. In May 2002 New York State Attorney General Spitzer and Merrill Lynch announced an agreement that reformed investment practices in key aspects (such as a prohibition of investment banking input into analysts' compensation); it also levied a \$100 million penalty on Merrill Lynch; see www.oag.state.ny.us/press/2002/may/may21a_02.html).

⁶ For examp le, Block (Nationsbanc), Cappelli (Credit Suisse First Boston), Gay (Thomas Weisel Partners, formerly Montgomery Securities), Locke (Banc of America), Peterson (US Bancorp Piper Jaffray), Soffen (Legg Mason Wood Walker), Stefan (ABN-AMRO). Affiliations as of 1999.

obligated to promote those equities in which their investment bank has a vested interest rather than those that they consider better bets. The fact that, as in the case of Merrill Lynch, market analysts' compensation was linked to investment banking activities, added to the incentive incompatibility of the situation.

Indeed, already Lin and McNichols (1998) found – long before the bursting of the Internet bubble – that three-day returns to lead underwriter analysts' "hold" recommendations are significantly more negative than those by unaffiliated analysts, suggesting that lead underwriter analysts' recommendations are affected by the moral hazard problem they face. Lin and McNichols also found that lead and co-underwriter analysts' growth forecasts and recommendations were significantly more favorable than those made by unaffiliated analysts. These and similar findings by other authors reinforced the wide-spread view that market analysts are glorified sales people who routinely paint too rosy a picture of the companies they promote (e.g., Brown 1993; Loeffler 1998; Amir & Ganzach 1998; Chaney, Hogan, & Jeter 1999). Interestingly, however, Lin and McNichols furthermore found that lead and co-underwriter analysts' earnings forecasts are not generally greater than, and post-announcement returns not significantly different from, those of unaffiliated analysts' recommendations.

There is by no means consensus on this issue: Keane and Runkle (1998) have contradicted the widespread view that stock market analysts' earnings forecasts and recommendations are too optimistic. Francis, Hanna, & Philbrick (1997) find, in addition, that stock market analysts do not seem to be easily swayed by management presentations, as these authors find no evidence that post-presentation forecasts are less disperse, more

accurate or less biased than their pre-presentation forecasts.⁷ One possible explanation for these results, if they survive replication with more recent data, is that reputation might constrain moral hazard in financial markets. Results suggestive of such an explanation exist (e.g., Chemmanur & Fulghieri 1994; Nanda & Yun 1997; Clement 1999).

Constructing the inventory of arguments. The inventory presented here was compiled through a content analysis of 15 interviews that the Wall Street Transcript [from now on WST; www.twst.com] conducted between May 1997 and April 1999 with a total of 10 market analysts, 8 on the "sell-side" and 2 on the "buy-side" The arguments were then arranged in three sets: those related to the economics of the post-secondary education industry in general such as demographic and societal changes, those that suggest why one might want to invest in publicly traded post-secondary education companies, and those that suggest why investing in this fledgling segment of the education industry might not be a good idea.

Evaluating the relative importance of the reasons analysts gave. One way to evaluate the relative importance of arguments meant to entice pensions and mutual fund managers to invest in for-profit education providers is to count how often they were mentioned by the analysts participating in the *Wall Street Transcript* interviews.

However, a number of the interviews were conducted simultaneously, covered additional

⁷ In light of Abrahamson and Park's (1994) finding that managers tend to conceal negative organizational outcomes, the skepticism reflected in stock market analysts' reactions seems appropriate.

⁸Cappelli, Gay, Hermann & Craig (Everen), Odening (Salomon Smith Barney, formerly Hambrecht & Quist), Saltzman & Stefan (ABN-AMRO), and Soffen from the sell-side and Ankrum (Janus) and Cheseby (T. Rowe Price) from the buy-side. Three of the market analysts (Cappelli, Gay, Odening) were interviewed twice, one (Soffen) thrice. All affiliations as of 1999.

topics, and were semi-structured⁹; frequency of arguments therefore is likely to be a noisy measure of their comparative importance. ¹⁰ Since I was interested in getting a sense of the relative merits of the arguments, I sent -- in mid-September 1999 -- a questionnaire containing the three sets of arguments in the inventory to a set of 10 analysts. ¹¹ To make the evaluation criterion unambiguous, I told my correspondents that "with this present questionnaire we are trying to quantify the importance of the factors thus [= through the content analysis, A.0.] identified as being responsible for making post-secondary education a promising investment". ¹² The analysts were asked to rate each reason on a 5-grade scale that runs from 1 to 5, 1 being "unimportant" and 5 being "among the 4 or 5 most important factors", with 2 = "less important", 3 = "important", and 4 = "more important". A small token of appreciation of 20 dollars was attached to each questionnaire. Cover letter and questionnaire are reproduced in the Appendix of Ortmann (2001), and can also be accessed at home.cerge-ei.cz/ortmann/instructions.html.

Eight of the 10 analyst correspondents returned the questionnaire, one of them anonymously. ¹³ Mean and median response was computed for all responses. On average

⁹ Among the multiple-participant-settings were two roundtables with four participants each and two interviews with two participants each.

¹⁰ It turns out that a simple counting of arguments led to a similar assessment of their relative merits, especially as regards the first two sets of questions.

¹¹ Among these correspondents were all those sell-side analysts that participated in the *Wall Street Transcript* sessions. Since Saltzman & Stefan (ABN-AMRO) and Herman & Craig (Everen) were in the same firm, I sent them one questionnaire only. In addition, I sent a questionnaire to four analysts that I had become aware of during my research (Bloch, Locke, Paris, Peterson).

¹² I also specified that the investment should be promising for "the forseeable future" and instructed the analysts, "when rating the reasons listed below, please use a 5-year perspective." This specification was meant to reduce possible ambiguities among my correspondents about the relevant time horizon.

¹³ Thanks are in order to Gregory Cappelli, Jerry Herman, Michael Locke, Alex Paris, Robert Peterson, Matthew Stefan, Scott Soffen, and the anonymous correspondent.

all reasons listed in the questionnaire were considered to be somewhat important as the lowest mean was 1.9 (less important). Given the relatively small number of correspondents (and therefore the possibility of outliers distorting averages) as well as the fact that the scale could be interpreted as non-cardinal, I used the median to classify the answers of my correspondents. Specifically, arguments with medians of 4, I classified as the "most important" (***) ones, those with medians of 3 as "important" (**), and those with medians of 2 as "less important" (*). ¹⁴ Of the 26 arguments that I asked my correspondents to rate, 9 garnered triple star, 12 two star, and 5 one star distinction given this classification. ¹⁵While it is tempting to compute dispersion measures, due to the non-cardinality of the scale it is not clear what such a measure would mean. Let me point out though that opinions ran the gamut on some issues (e.g., "barriers to entry") while on others they were tightly focused (e.g., "economies".)

III. The relative importance of the arguments that analysts used to persuade investors

In the following, I integrate the arguments in a narrative that distinguishes the three sets of reasons that I identified through the content analysis. At the outset, it is interesting to note that almost all arguments concerned with the economics of post-

¹⁴ There were 6 cases where the median required averaging. The classification of these arguments was done through rounding that relied on the mean. Clearly this is a somewhat arbitrary procedure. The classification, however, is rather robust to various specifications and does not in any significant manner affect the narrative that will be constructed presently from this inventory.

¹⁵ A ranking of the responses according to mean is highly congruent, as the first draft of this manuscript [see home.cerge-ei.cz/ortmann/recentWPs.html] demonstrates. Classifying arguments with means between 3.8 to 4.3 as the "most important" ones, those with means ranging from 2.8 to 3.6 as "important" (**), and those with means ranging from 1.9 to 2.5 as "less important" (*), leads to 7 triple, 14 two, and 5 one star classifications. In fact, only two of 26 arguments switch their classification, namely "attention" and "barriers to entry" both of which are upgraded.

secondary education and the reasons why one might want to invest in publicly-traded post-secondary education companies were rated "most important" or "important". In contrast, most arguments reflecting reasons why one might not want to invest in those companies drew a "less important" rating.

The economics of (post-secondary) education. The for-profit education industry had (and still has) plenty of competitors in the fight for investors. Most prominently, in the second half of the nineties there was the rush to settle cyber-space, which attracted massive and well-documented capital flows and capital gains (and a whole industry to comment on them, e.g., Multex.com). What then qualified (and still qualifies) the education industry, and in particular, the post-secondary education industry as a potentially attractive place for investments?¹⁶

The analysts agreed that a major driver of the emergence of for-profits was the shift to a knowledge-based and technology-driven economy that pays an ever higher income premium to those with IT-related skills ("income premium"***). This income premium, and the underlying technological drivers, are seen as creating an increased demand for education on the part of adults ("career-oriented continued education"***) and as contributing to the increased demand for post-secondary education on the part of students who have just graduated from high school ("career-oriented education"***),

¹⁶ After the implosion of Internet companies during much of 2001, there was a general unwillingness of investors to invest at all in a market whose slide seemed unstoppable. After a year-long drought, education venture capital investments quadrupled (both in number of transactions and volumes) in the second quarter of 2002 relative to the first quarter according to market research firm Eduventures. The \$50 million investment of two private equity firms in the third quarter of 2002 in newcomer U.S. Education Corporation – a company that since then has tried to acquire private career colleges offering information technology and allied health associate and certificate programs – was another indication that, after the drought and the accompanying consolidation phase documented in footnote 1, funds were more easily accessible again. As of mid-March 2005, the company (www.useducationcorp.com) has acquired four colleges; it may go public within a couple of years. See also Blumenstyck (2005) which summaries recent, and not so recent, Eduventures investment data.

with another driver of this development being the "baby boom echo" ("more education" **).

The analysts agreed that one of the features that makes the education industry interesting are its very predictable revenues and earnings ("earnings visibility"***). That government funding is, and will be, a steady source of significant revenue was considered an important argument ("government funding"**). Even more important, in the eyes of the market analysts, is the widely held belief that the post-secondary education industry is essentially recession-proof, if not countercyclical, and therefore a play that might reduce the volatility of one's portfolio ("a/countercyclicality"***). Analysts also believe that there is an increased need for IT-related skills internationally from which U.S. education companies could benefit ("international demand"**).

Why one might want to invest in publicly-traded post-secondary education companies. The arguments so far suggest why the post-secondary education industry is likely to encounter favorable demand conditions for the foreseeable future. Such a friendly environment, however, while positive for public and private non-profit higher education providers, does not necessarily translate into a promise that the stock price of publicly traded companies will fare well. After all, and to recall, not only do they have to deliver reasonable profits (= dividends, retained earnings) to ple ase investors, they also face competition from public and private competitors that do not have to produce profits to please investors, that are advantaged through numerous tax and regulatory breaks (see Facchina, Showell, & Stone 1993), and that have access to resources such as foundation grants not available to proprietary schools.

Analysts work under the assumption that publicly traded companies are likely to have for the foreseeable future, in addition to their high earnings visibility, high revenues and earnings growth ("high growth"***). In the *Wall Street Transcript* interviews, one analyst predicted 6 - 8 % "same store sales" growth, and 12 - 16 % overall growth rates as sustainable for well-managed companies. Other analysts seemed to agree with those estimates. Such growth would be, by all measures, a multiple of the growth of non-profit competitors. In the Wall Street Transcript interviews, another analyst suggested that a better performance measure of the underlying "business model" was returns on equity and that on those grounds the better players in the industry had done outstandingly well. In their questionnaire responses analysts confirmed that sentiment, qualifying "high returns" (***) as another of the most important reasons why one might want to invest in publicly-traded post-secondary education companies

The strong expectations of revenue growth and returns for for-profits prompted the question how they would be able to compete successfully in an industry populated with subsidized and otherwise advantaged competitors? Analysts suggested that for-profits understand, and understand better than their nonprofit competitors, that the education industry is a service industry first and foremost, and that those who want to survive have to focus on students' and their prospective employers' satisfaction instead of alternative priorities such as faculty research ("focus"**). According to the analysts, this is expressed in courses that are offered at convenient times and locations ("flexibility"**) and in the fact that for-profits pay religious attention to retention, graduation, placement, and referral rates ("attention"***), as reflected in for-profits' attempts to ferret out what prospective employers of their graduates want.

While "focus", "flexibility", and "attention" may lead to increased revenues, they do not necessarily produce good earnings. Regarding the cost side, analysts consider it to be important (**) that publicly-traded education companies operate under a "pricing umbrella" spanned by inefficiently run public and private non-profits which allows them to increase prices at or above the rate of inflation. It is clear from the contexts of the *Wall Street Transcript* interviews and roundtables (e.g., "focus") that the use of the adjective "inefficient" here refers to faculty paying too much attention to their research instead of teaching (see also Herman et al. 1999, and Ortmann & Squire 2000).

The analysts in the *Wall Street Transcript* interviews had identified as two key supply-side advantages of for-profits the significant economies of scale in marketing, regulatory compliance, and other functions that can be centralized and the fact that those publicly-traded education companies who manage to navigate the regulatory environment successfully can rely on regulations as an effective barrier to entry for new enterprises. The questionnaire respondents agreed and classified these two arguments as important for the decision to invest in for-profit secondary education ("economies"**, "barriers to entry"***). ¹⁷ The argument that competition through new entrants is higher in the training segment of post-secondary education ("competition"**) was also considered important, and validated indirectly the claim that post-secondary education is, in key respects, different from other parts of the education industry.

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¹⁷ This poses the interesting question of why these advantages are suddenly central drivers of growth. Three explanations come to mind. The most likely explanation is, as evidenced by the fact that most initial and follow-up public offerings have happened since December 1994, that proprietary providers have gained the critical mass that allows them to capture those economies. Second, it is quite possible that the advances in information technology that we witnessed over the past decade (e.g., McKinsey 1992, 1993) were a conditio sine qua non. Third, the public perception of for-profit education has clearly changed (KnowledgeQuest 1999; 1999a); for-profits have won respect even in Congress (Burd 1998; 2001; 2003).

While the claim that working adults represent the primary market for distance education programs ("primary market "**) was also considered important, the claim that distance education allowed publicly traded education companies to make end-runs around state education boards and accrediting agencies was considered less important ("end-run"*).

Why one might not want to invest in publicly-traded post-secondary education companies. It is in the nature of interviews and roundtables involving analysts that risk factors are featured less prominently. Still, several caveats were mentioned in the Wall Street Transcript interviews and I included them as a third set of arguments in the questionnaire.

Surprisingly, market analysts considered as less important the argument that direct and indirect subsidies to private and public non-profits puts for-profits at a competitive disadvantage ("subsidies"*). Likewise, differential enforcement of regulations was considered less important ("stricter enforcement"*) as a source of competitive disadvantage. Seemingly inconsistent with that assessment, the argument that state education boards and accrediting agencies are typically populated by non-profit school officials and faculty who take a skeptical view of for-profit educational companies was considered important ("skeptical view"**).

Turning from external to internal problem potentials, analysts considered as important the fact that many degree-granting publicly traded post-secondary education providers have relatively short operating histories that complicate an assessment of the quality of the management ("short operating histories"**). That verdict is maybe not that surprising as it absolves the respondents to some extent from judgments that turn out to

be mistaken. Seemingly inconsistent with analysts' assessments of the problems inherent with short operating histories, the fact that many for-profit managers have significant insider stakes was considered less important ("insider management and control"*), as was the oftenheard argument that the overwhelmingly practiced business model of leasing physical plant and hiring temporary and/or part-time faculty could represent a significant "contractual risk" (*).

Discussion. The picture that emerged from the questionnaire was, nuances aside, reasonably congruent with the kind of argument one typically found in the second half of the nineties (and still finds today) in company documents and analyst reports (for the best, and most "academic" among many, see Herman et al. 1999, an excellent primer that draws on U.S. Department of Education and National Center of Education Statistics.)

One key difference is the degree of emphasis on risk factors that pervades SEC filings but is not as highly rated by analysts.

It is still too early to assess the quality of the arguments that analysts used to persuade investors. Specifically, no satisfying studies exist about the value added of the educational offerings of publicly traded providers of post-secondary education. The stock market performance of these companies, until recently, has validated analysts' arguments (see also footnote 24). Specifically, the assumptions about enrollment, revenue, and earnings growth turned out to be underestimates for most of the companies that remain in competition, with some companies reporting extraordinary revenue and earnings growth (e.g., revenue growth: APOL for years ending August 2004 and 2003, more than 30 percent each, with enrollment and revenue growth for the online division being in excess of 50 percent; CECO for years ending December 2003 and 2002, about 50 percent each;

COCO for years ending June 2004 and 2003, more than 50 percent each; EDMC for years ending June 2004 and 2003, about 30 percent each; and STRA for years ending December 2004 and 2003, about 25 percent each; earnings growth: CECO above 75 percent; COCO 25 and 70 percent, respectively; EDMC about 35 percent; ESI about 30 percent; and STRA 20 and 30 percent, respectively; all for the corresponding periods. ¹⁸)

IV. How do analysts' views compare to those of modern economic theories of firms and markets? And how do they match the facts?

"Wall Street looks at profitability and earnings and that drives stock prices."

(An anonymous education industry analyst in *The Wall Street Transcript* 5/18/98)

"This money [aid programs that Ohio state legislators made available to students in for-profit colleges] is not necessarily going to educate more students or to improve education. It's a scholarships ultimately going into profits."

(Roderick G.W. Chu, chancellor of the Ohio Board of Regents)

"... we are pleased to be reporting record revenues and earnings for fiscal 1998. It is particularly satisfying that our graduates continue to achieve high job placement rates and that their average starting salaries are increasing at substantially greater than the inflation rate. This is what our business is all about." (Robert B. Knutson, CEO, Education Management Corporation)

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¹⁸ Data computed from income statements.

On Wall Street, we are told by one of the *Wall Street Transcript*'s interviewees, it is earnings and profitability that drive stock prices. It is the P-word that agitates people like Chu (and many others, e.g., Burd 2003.) What Chu does not mention is that state funds (and the substantial indirect subsidies through tax and regulatory breaks) go into something in non-profits too, quite possibly into activities that are not tied to the mission of nonprofit colleges and universities or into outright wasteful activities (James 1978; Massy & Zemsky 1994; Ortmann 1997; Ortmann & Squire 2000). The possibility of profits poses the intriguing question of how earnings and profits can be generated by participants in an industry that is populated by directly and indirectly subsidized competitors. ¹⁹ And it poses the equally intriguing question of how these new entrants can produce for the foreseeable future both high growth in revenues and high earnings.

One answer to that question is captured by the importance that analysts assign, in unison with most companies' SEC filings, to the two key supply-side advantages that forprofits are argued to have: the significant economies of scale in marketing, regulatory compliance, and other functions that can be centralized ("economies"**) and the fact that those publicly traded education companies who manage to navigate the regulatory environment successfully, can rely on regulations as effective barrier to entry ("barriers to entry"**). Analysts' belief that competition through new entrants is higher in the

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¹⁹ A referee noted that "federal subsidies to higher education have been shifting from demand-side to supply-side (tuition) subsidies in the U.S., and that the latter subsidies have been opened up to for-profit institutions to a substantial extent, providing a considerable boost to the demand for their services. State-level subsidies remain heavily on the supply side, but are evidently declining on a per-student basis and seem likely to continue to decline, and may ultimately be converted in many cases to demand-side subsidies as well." True. This should, however, not distract from the fact that for-profits have to produce profits to please their investors and that they do not have available to them numerous regulatory and tax breaks including tax-deductable donations, foundation grants, etc. While in other words, the playing field is less uneven, it is not level yet. I have little doubt that the ability of for-profits to emerge, and thrive, in what should be a hostile environment to them, was possible only because of the appalling inefficiency and inefficacy of traditional providers of post-secondary education.

training segment of post-secondary education re-iterates the belief that those who have successfully hurdled the regulatory barriers to entry in higher education stand to reap significant advantages ("competition"**). ²⁰ It is noteworthy, though, that, although analysts agree on the importance of economies of scale, they disagree on the importance of the barriers- to-entry argument, with ratings running the gamut from "most important" to "less important".

Knutson gives another important answer to the question of why earnings and profits are generated by publicly traded education companies in an industry that is populated by directly and indirectly subsidized non-profit competitors. The essence of his demand-side argument is that post-secondary education is an industry that is based first and foremost on quality and, since the nature of education does not easily allow for an assessment of actual quality, on expected quality or reputation. This is why placement rates and increasing starting salaries matter to Knutson. ²¹ Indeed, Knutson's conception of what his business is about flies in the face of wide-spread and popular conceptions that others have proposed as rationale for the raison d'etre of higher education as we knew it (e.g., Winston 1997, 1999) and that also underlies the dominant rationale for the existence of private and public non-profits (Ortmann 1996; Ortmann & Kuhrt 2000;

²⁰ Two representative views:

[&]quot;This industry by definition is one with very high barriers to entry. ... it's perhaps one of the most heavily regulated industries in the economy. ... If you want to talk about what keeps us awake at night, it's the concern about the shifting sand of this regulatory oversight and our ability to adapt to it and stay on top of it. ... If there's one thing that I really watch, that's the piece."

(David G. Moore, President & CEO Corinthian Colleges, Inc., in a WST interview on 6/4/1999)

[&]quot;Regulation is both a benefit and barrier. There are significant costs and administrative burdens for being in this regulated industry. But by the same token, it also raises the hurdle rate for potential or would be competitors to enter the market." (Jerry R. Herman, analyst, in a WST interview on 4/26/1999)

²¹ Knutson's argument is prominently mentioned by most companies and their CEOs, e.g., Strayer's Bailey: "Producing satisfied graduates who have successful careers increases our referral rates and strengthens our reputation." (WST 6/4/1999). In fact, reading SEC filings and message boards it becomes quickly clear that it is management's lack of understanding of reputational issues that did companies such as CLCX in. See also footnote 24.

Young & Steinberg 1995, pp. 20-21; Oster 1995, pp. 18-19; Hansmann 1996, p. 228). In brief, the traditional view is that reputational equilibria can not work in markets where the quality of a good cannot be ascertained upon purchase because sellers of adjustable goods and services such as car repairs, organic fruit, education, and health, day, and elder care, could and would like to rip off consumers by promising goods and services of high quality, collecting a corresponding price, and then delivering goods and services of inferior quality (Akerlof 1970).

In a series of intriguing contributions, Hansmann (1980, 1996, chapter 12) suggested that the dire consequences of information asymmetries ultimately drove the emergence of entities that were constrained by a non-distribution constraint, that is, non-profits. Sellers of adjustable goods and services, Hansmann argued, were prevented by the non-distribution constraint and its side-kick, the reasonable-compensation constraint, from ripping customers off. Being constrained from distributing profits, managers of nonprofits would have no incentive to maximize profits by ripping customers off where customers may refer to students (and their parents) as well as donors.

Akerlof's argument, and by implication Hansmann's, was countered by Heal (1976) who pointed out that the essence of the asymmetric information problem could be framed as a one-shot prisoner's-dilemma-type game. He also pointed out that the likely outcome of an indefinitely repeated prisoner's dilemma game was very different from that of a one-shot game. Indeed, seller-buyer interactions tend to be of the indefinitely repeated kind, such as buying organic fruit at the local farmers' market or grocery store. Heal argued, furthermore, that even for car repairs, education, and health, day, and elder care (where sellers typically interact on a less frequent basis with any one customer),

markets -- possibly enforced by warranties and what not -- would evolve effective means of reputational enforcement. ²² The ramifications of the argument are dramatic. As in the indefinitely repeated prisoner's dilemma game, it is now in the interest of the seller to provide the consumer with a product that matches her or his expectation. Heal's argument has become the corner stone of modern theories of firms and markets all of which are built on reputational enforcement in exactly the kind of situations that allegedly require nonprofits to step in (Klein & Leffler 1981, Holmstroem & Tirole 1989, Kreps 1990; Kreps 1990a; see also Ortmann 1999 for an analysis of the writings of an early contributor to that debate).

It is here where Knutson's sense of what his business is about comes into play. Increasing placement rates and increasing starting salaries beget more referrals which, in turn, reduce the costs of marketing and so on. ²³Educational institutions, in other words, are caught in repeated game scenarios and reputational equilibria which will be swiftly enforced. The argument here is similar to the argument that applies to financial markets. Analysts or fund managers who underperform will soon find the demand for their services dwindle. Just as systematically overestimating earnings is not evolutionarily stable for market analysts, not providing promised quality is evolutionarily not stable for for-profit companies (Ortmann 1997). When analysts talk about "focus" and "flexibility"

²² There is a wide-spread misconception that repeated games do not apply in a context in which people only invest in something like a college education. Game-theoretically it does not matter whether a firm plays against the same person all the time or a series of people (Kreps 1999, pp. 66 - 72) if, and that's an important conditional, the firm has a reputation to protect and the value of that reputation always exceeds the short-run gains it could obtain from sullying its reputation. I have argued elsewhere that this is indeed the situation in which many a higher education firm finds itself these days (Ortmann 1997). One might object that it takes time to build a reputation. It is therefore interesting to note how quickly for-profits have managed to overcome the negative connotations that were attached to their enterprise certainly in the first half of the nineties (Burd 1998; 2001; 2003).

²³ In their SEC filings the companies enumerated in footnote 1 typically claim(ed) that between one third and two third of their students come from referrals.

and "attention" as important arguments, this is what they talk about implicitly. As one of my correspondents (Soffen), succinctly put it, "When I'm trying to judge the quality of a company's product, one of the first data points I look to is the percentage of their new students derived from referral. ... I would emphasize the importance of referrals as being a low-cost, high-conversion method of obtaining leads." (*WST* 5/18/98) An obvious consequence is that those for-profit providers that do not play the reputation game successfully won't stand a chance to collect "buy" recommendations.

Even if they do, though, they are not home free, as investors react quickly to both real and perceived problems. To wit, many of the companies in the universe we are concerned with here were way off their highs at the writing of the first draft of this paper (October 1999), some dramatically so, and many are so these days for reasons I shall return to in the concluding discussion.²⁴ One of the interesting aspects of the decline in the stock prices of for-profit providers of higher education in 1999 has been that some firms have suffered more than others. Soffen sees the "tremendous flight to quality

²⁴ Had one bought one share of each of the stocks mentioned in footnote 1 at their 52-week high (in most cases early in 1999), one would have paid a grand total of \$ 275. At the end of September 1999 this amount would have been worth less than \$150, for a loss of approximately 45 % of the original investment and not taking into account the opportunity cost of investing that money elsewhere. That said, it is noteworthy that shareholder returns since the IPOs equaled 4 - 11 times that of the S&P 500 Index and that the comparative returns of a market cap weighted post-secondary index beat the S&P 500 Indexby a factor of more than 3 (Herman et al. 1999, pp. 52-3). Also, between the last trading day in September 1999 and the last trading day in September 2000, the stocks enumerated in footnote 1 approximately doubled in value. Between the last trading day in September 2000 and the last trading day in September 2001, a portfolio of 1 share each of APOL, CECO, COCO, DV, EDMC, ESI, STRA, and WIX would have appreciated approximately 45 % - a remarkable performance by any standard but in particular in light of the miserable performance of US stock markets during that time (which includes the implosion of Internet stocks). Finally, a portfolio of 1 share each of APOL, CECO (including WIX), COCO, DV, EDMC, ESI, and STRA, kept through mid-March 2005, would have again more than doubled in value since the last trading day in September 2001, outpacing by a wide margin all relevant market indices which during that time moved essentially sideways. In fact, only one of the education stocks would have produced losses during that period (DV) with all others increasing in value roughly two to three times. – a spectacular performance by any measure. These results are robust to different ways of computing performance such as measures that weigh price with market capitalization (e.g., See the Chronicle Index of For-Profit Higher Education, www.chronicle.com whose origin goes back to discussions that the present author had with a *Chronicle* writer at a workshop in the fall of 1999).

among the stocks" driven by reputations: "The stocks that have performed the poorest ... have a cloud overhanging them. The stocks that have performed the best ... are perceived by Wall Street to be clean as a whistle." (lit.cit.) Reputation, in other words, is the name of the game. It's a point that market analysts, and most of the companies represented in this study, seem to understand well. A for-profit education company that does not understand that reputation, and ultimately, expected quality matter, is likely to learn that lesson the hard way as illustrated by the travails of companies such as EduTrek, Whitmann, or, Computing Learning Centers. Even companies like Sperling's APOL, Knutson's EDMC, or Larson's CECO (all of which have stellar reputations among analysts; see the off-record interviews published by *The Wall Street Transcript* on 4/26/99 and 5/18/98) are highly susceptible to attacks on their reputation. ²⁵

In sum, based on my own research (Ortmann 2000, Ortmann 2003; Ortmann & Kuhrt 2000, Ortmann & Squire 2000) and what I consider to be the essence of modern theories of firms and markets -- "focus", "flexibility", "attention" --, I believe analysts paint a reasonably accurate picture of threats and opportunities. There are two areas where I would quibble with analysts' view of things. First, I side with those analysts who

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²⁵ As regards APOL, in the Fall of 1999 (at the time the questionnaire was sent out) its stock price was about 50 % off its high. This development was attributed by several analysts to a two-year investigation that the Department of Education (DE) had undertaken. However, APOL's stock price did not recover significantly upon the news that the final program review determination letter essentially exonerated APOL: "(The DE) largely agreed with Phoenix that many of the university's problems in managing federal student aid funds were the result of its rapid expansion of the past several years." (Chronicle of Higher Education, 8/13/1999, A43) As regards EDMC, its stock got pounded after it announced, in September 1999, that 145 Houston-area students had brought a suit against the Art Institute of Houston, alleging they were defrauded by their school. EDMC's stock price (which in mid-1998 was above \$35) fell, in late1999, and for several months was below \$10. It has recovered significantly since then. Most recently, and in fact through much of 2004, a flurry of lawsuits (from shareholders as well as students) and government investigations hit APOL/UOPX, CECO, COCO, and ESI, with ESI losing temporarily half of its value after FBI federal agents, equipped with search warrants and grand-jury subpoenas, invaded its headquarters and ten of its campuses, while CECO and COCO lost – less temporarily – about two-thirds and three-fourths of their value over the summer in reaction to various lawsuits and government investigations, as well as missed earnings estimates.

believe that (regulatory) barriers-to-entry are an important issue. ²⁶Second, I believe that the contractual risk (in particularly as regards management and IT-faculty) is considerable and is not well-understood by analysts.

V. Capital Romance: Is Wall Street still in love with higher education?

Until fall 1998 most for-profit providers of post-secondary education had seen steady and rapid growth of revenues, earnings, and stock prices. Stock prices then started to drift downward dramatically, undermining for-profits' ability to use Wall Street as their readily available endowment.

The decline of stock prices during Spring 1999 (see footnote 24) left many an analyst puzzled and experimenting with ex-post rationalizations that were in some cases in marked contrast to the rather optimistic price targets the very same analysts predicted as late as April and May of that year. At loss for a clear explanation, market analysts referred to "sentiments" that had turned negative. Among the more tangible reasons that market analysts paraded was that stock prices were not supported by enrollment and earnings numbers and that run-ins with regulators or very public suits filed by former and present students took their toll (Blumenstyck 2000). Overall, the reasons for the decline seemed poorly understood and opinions about their justification were quite diverse.

To better understand analysts' commitment to degree-granting providers of postsecondary education, I asked my questionnaire respondents two allocation questions. With one question I tried to figure out how they rated the prospects of publicly traded

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²⁶ My view is supported by KnowledgeQuest's 1999 ranking of quality of management and regulatory environment as the highest risks. Note that this ranking is based on surveys of venture capitalists, i.e. people who put their money where their mouth is.

degree-granting providers of post-secondary education relative to other areas such as K-12 and education products. With the other question I tried to understand which publicly traded degree-granting providers of post-secondary education were still considered a good bet, and which not.

The detailed results of these two allocation questions may be found in Ortmann (2001). Interestingly, the analysts responses contradicted the (then) actual flow of venture capital which steered away from post-secondary education while the analysts had a strong preference for such investments. Of course, given their expertise, that was not that surprising.

Interestingly also, the analysts identified three groups of stocks into which they would invest sharply differing amounts of a hypothetical portfolio: APOL, DV, and EDMC each garnered around 20 %, CECO, ESI, and STRA each garnered around 10 % with the other six candidates being distinctive also-rans (QEDC = 4 %, EDUT = 3%, COCO = 2 %, CLCX = 1 %, WIX = 1 %, and ARGY = 0 %). As I document in Ortmann (2001), the differential allocation did not make much of a difference. Specifically, equally weighted portfolios drawing on these three groups of stocks would have performed more or less the same – a result that any believer in the efficient market hypothesis would have predicted. Specifically, analysts did not foresee the emergence of COCO as one of the remaining publicly traded providers of post-secondary education or the acquisition of QEDC. That said, the six stocks that they implicitly predicted as survivors (APOL, DV, EDMC, CECO, ESI, and STRA) have done reasonably well indeed.

VI. Conclusion

Market analysts' understanding of the reasons that drove (and continue to drive) the rapid emergence of a publicly traded for-profit higher education segment does not seem to give them much of an edge in predicting the success of individual companies. However, their arguments allow a compelling narrative about the reasons Wall Street fell in love with higher/post-secondary education in the first place and is likely to remain in love with it for the foreseeable future. Market analysts' interpretation of the universe of publicly traded degree-granting providers of such education are reasonably congruent with both facts and modern economic theories which emphasize incentive alignment problems and the importance of reputational enforcement of goods and services whose quality can be adjusted.

What, then, do we have to make of the flurry of lawsuits (from shareholders as well as students) and government investigations (by seemingly everyone from Securities and Exchange Commission, Departments of Justice and Education, California Attorney General, and accrediting bodies) that hit the majority of publicly traded providers of post-secondary education discussed in this chapter (specifically, APOL/UOPX, CECO, COCO, and ESI) through much of 2004? Nevermind the pitiful *60 Minutes* segment in January of 2005 (see

www.cbsnews.com/stories/2005/01/31/60minutes/main670479.shtml)?

I believe we see three forces at work. One force is, as in other areas of emerging industries, a well-organized set of lawyers at work that try to go after the obviously very deep, and increasingly deeper pockets of the ever fewer publicly traded providers of post-secondary education. The other force is an equally well-organized lobby of traditional

providers of colleges and universities, often well-connected with sympathizers at the Departments of Justice and Education and the accrediting bodies (as well documented in Sperling 2000). This lobby tries hard to influence the outcome of the current reauthorization of the Higher Education Act. Specifically, this lobby tries to prevent publicly traded providers of post-secondary education to gain access to federal funds other than grant and loan money (e.g., Burd 2003, 2005). Some well-sowed doubts about the trustworthiness of the publicly traded providers of post-secondary education might go a long way in that battle. It's hard to explain the sudden flurry of damaging claims and sensationalist actions (e.g., the ESI raid or the 60 Minutes "investigation") any other way

Thirdly, publicly traded providers of higher education do walk a knife-edge in trying to maintain their reputations <u>and</u> to demonstrate to Wall Street that they can continue to produce stable and high returns (which is, of course, what made them Wall Street's darlings in the first place). Sometimes, as they make the transition to more elaborate management structures, and as they lose the direct input of founders who had a good grasp of reputational issues (e.g., Sperling at APOL), they may temporarily forget that their business is, first of all, about trust and trustworthiness of their products. In this respect, occasional shareholder and student lawsuits²⁷ as well as government investigations of aspects such as recruiting practices at APOL/UOPX are useful. It is the

Alternatively, actions such as those of Steve Bostic, a large shareholder who ran the American Intercontinental University schools before selling them to CECO in 2001, might help publicly traded providers of post-secondary education to remember what their business was supposed to be all about: . According to Reuters (03/24/2005), Bostic – through a proxy filing with the Securities and Exchange Commission — recently called on shareholders to improve corporate governance and remove or alter many of CECO's anti-takeover provisions. Specifically, he proposed that shareholders vote to eliminate a stockholder rights plan or poison pill, and change restrictions on shareholders' ability to call special meetings

and switch to an annual reelection of directors from the currently staggered board.

potential of such investigations triggering dramatic losses in market valuations that adds to the enforcement that reputation, quite efficiently, provides in any case.

As far as I am concerned, it is only to be hoped that the same tough standards (of truth in advertising and what not) currently applied to publicly traded providers of post-secondary education will also be applied to traditional providers of post-secondary education that, in their blatant inefficiency (see Ortmann 1997; Ortmann & Squire 2000), have failed the nation for a long time and that have made possible the tremendous success story that publicly traded providers of for-profit education in the USA have, without doubt, become. Not just on Wall Street.

VII. References

Abrahamson, Eric and Choelsoon Park (1994), Concealment of Negative Organizational Outcomes: An Agency Theory Perspective. *Academy of Management Journal*, 37, 1302 - 34.

Akerlof, George A. (1970), The Market for Lemons. *Quarterly Journal of Economics*, 84, 488 - 500.

Amir, Eli and Yoav Ganzach (1998), Overreaction and underreaction in analysts' forecasts. *Journal of Economic Behavior & Organization*, 37, 333 - 47.

Blumenstyck, Goldie (2000), In 1999, the Bull Market Turned Into a Bear for Publicly Traded Higher- Education Companies. *Chronicle of Higher Education*, January 7, A47.

Blumenstyck, Goldie (2003), For-Profit Colleges Attract a Gold Rush of Investors. *Chronicle of Higher Education*, March 14, A25.

Blumenstyck, Goldie (2005), Investments in Privately Held Higher-Education Companies Doubled From 2003 to 2004, Report Says. *Chronicle of Higher Education (Today's News)*, March 25.

Brown, Lawrence (1993), Earnings forecast research: Its implications for capital markets research. *International Journal of Forecasting*, *9*, 295 - 320.

Burd, Stephen (1998), For-Profit Trade Schools Win New Respect in Congress. Chronicle of Higher Education, September 4, A47.

Burd, Stephen (2001), For-Profit Colleges Praise a Shift in Attitude at the Education Department. *Chronicle of Higher Education*, November 9, A24.

Burd, Stephen (2003), For-Profit Colleges Want a :Little Respect. *Chronicle of Higher Education*, September 5, A23.

Burd, Stephen (2005), Lawmakers Are Urged to 'Go Slowly' on Loosening Rules for For-Profit Colleges. *Chronicle of Higher Education*, March 11, A24.

Carhart, M.M. (1977), On Persistence in Mutual Fund Performance. *The Journal of Finance*, 52, 57 - 82.

Chaney, Paul K., Chris Hogan, Debra C. Jeter (1999), The effect of reporting restructuring charges on analysts' forecast revisions and errors. *Journal of Accounting and Economics*, 27, 261 - 84.

Chemmanur, Thomas and Paolo Fulghieri (1994), Investment Bank Reputation, Information Production, and Financial Intermediation. *Journal of Finance*, 49, 57 - 79. Clement, Michael B. (1999), Analyst forecast accuracy: Do ability, resources, and portfolio complexity matter? *Journal of Accounting and Economics*, 27, 285 - 303.

Facchina, Bazil, Evan Showell and Jan Stone (1993), Privileges and Exemptions Enjoyed by Nonprofit Organizations. *University of San Francisco Law Review*, 28, 85 - 121.

Francis, Jennifer, J. Douglas Hanna, Donna R. Philbrick (1997), Management communications with securities analysts. *Journal of Accounting and Economics*, 24, 363 - 394.

Hansmann, Henry (1980), The role of nonprofit enterprise. *Yale Law Journal*, 89, 835 - 901.

Hansmann, Henry (1994), Organization of Production in the Human Services. Working paper No. 200, Program on Non-profit Organizations (Yale University).

Hansmann, Henry (1996), *The Ownership of Enterprise*. Cambridge: The Belknap Press of Harvard University Press.

Heal, Geoffrey (1976), Do Bad Products Drive Out Good? *Quarterly Journal of Economics*, 90, 499 - 503.

Herman, Jerry R., Robert L. Craig, Leigh D. Pollak, Kristin A. Basel (1999). Educational Services Industry, 2nd edition. Chicago: EVEREN Securities.

Holmstroem, Bengt R. and Jean Tirole (1989), The theory of the firm. In R. Schmalensee & R.D. Willig (eds.) *Handbook of Industrial Organization*, 1. New York: North-Holland. James, Estelle (1978), Product Mix and Cost Disaggregation: A Reinterpretation of the

Keane, Michael P. and David E. Runkle (1998), Are Financial Analysts' Forecasts of Corporate Profits Rational? *Journal of Political Economy*, 106, 768 - 805.

Economics of Higher Education. *Journal of Human Resources*, 13, 157 - 186.

Klein, Benjamin and Keith Leffler (1981), The Role of Market Forces in Assuring Contractual Performance. *Journal of Political Economy* 89, 615 - 641.

KnowledgeQuest (1999), Venture Capital Investment in the Education Industry.

Presentation at EDVentures '99, Madison, WI, July 30, 1999.

KnowledgeQuest (1999a), 1999 KnowledgeQuest Ventures Survey of Education Venture Capital. Presentation at the 4th Annual EI Finance & Investment Institute, Boston, MA, September 17.

Kreps, David M. (1990), Corporate culture and economic theory. In J.E. Alt & K.A.

Shepsle (eds). Perspectives on Positive Political Economy, Cambridge: CUP.

Kreps, David M. (1990a), Game Theory and Economic Modelling. Oxford: OUP.

Lin, Hsiou-wei and Maureen F. McNichols (1998), Underwriting relationships, analysts' earnings forecasts and investment recommendations. *Journal of Accounting and Economics*, 25, 101 - 127.

Loeffler, Gunter (1998), Biases in analyst forecasts: cognitive, strategic or second-best? *International Journal of Forecasting*, 14, 261 - 274.

Massy, William F. and Zemsky, R. (1994), Faculty discretionary time: Departments and the "academic ratchet." *Journal of Higher Education*, 65, 1 - 22.

McKinsey Global Institute (1992). *Service sector productivity*. Washington, DC: McKinsey & Company.

McKinsey Global Institute (1993). *Manufacturing productivity*. Washington, DC: McKinsey & Company.

Nanda, Vikram and Youngkeol Yun (1997), Reputation and Financial Intermediation: An Empirical Investigation of the Impact of IPO Mispricing on Underwriter Market Value. *Journal of Financial Intermediation*, 6, 39 - 63.

Ortmann, Andreas (1997), How to Survive in Post-industrial Environments. Adam Smith's Advice for Today's Colleges and Universities. *Journal of Higher Education*, 68, 483 - 501.

Ortmann, Andreas (1999), The nature and causes of corporate negligence, sham lectures, and ecclesiastical indolence: Adam Smith on joint-stock companies, teachers, and preachers. *History of Political Economy*, *31*, 297 – 315.

Ortmann, Andreas (2000), The Emergence of a For-profit Higher Education Sector:

Recent Developments. Presentation at the ARNOVA Conference, Seattle 1998.

Ortmann, Andreas (2001), Capital Romance: Why Wall Street Fell in Love With Higher Education. *Education Economics*, 9, 293 - 311.

Ortmann, Andreas (2003). The Economics and Industrial Organization of E-learning: An introduction. Presentation at the NCSPE conference, Teachers College (Columbia University), New York 2003.

Ortmann, Andreas and Kaire Kuhrt (2000), Why a College is Like A Firm. Presentation at the AEA meetings, New Orleans 2001.

Ortmann, Andreas and Richard Squire (2000), A Game-theoretic Explanation of the Administrative Lattice in Institutions of Higher Learning. *Journal of Economic Behavior and Organization* 43, 377 - 392.

Oster, Sharon (1995), *Strategic Management for Nonprofit Organizations*. New York: Oxford University Press.

Smith, Rich (2004), Sylvan's Financial Maze. *The Motley Fool* (February 23, 2004).

Accessed at www.fool.com/Server/FoolPrint.asp?File=/news/mft/2004/mft04022309.htm

Sperling, John (2000), *Rebel with a Cause*. New York: John Wiley & Sons.

Winston, Gordon (1997), Why Can't a College Be More Like a Firm? *Change* 29 September/October, 32-38.

Winston, Gordon (1999), Subsidies, Hierarchy and Peers: The Awkward Economics of Higher Education. *Journal of Economic Perspectives* 13, 13 - 36.

Young, Dennis R. and Richard Steinberg (1995), *Economics for Nonprofit Managers*.

New York: The Foundation Center.