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Public turning private: What is the value?

Peter Laskowski[1] **Fredrik Norell**[2]

Abstract

A traditional fundamental valuation cannot be applied to a public organization about to be privatized because of zero profit policy, a high propensity to spend centrally allocated resources and dissimilar accounting compared to private companies. When computing the intrinsic value of such an organization, the state owner should determine potential buyers of the object, and investigate what management control tools are used among these, enabling survival as private companies and depicting operating profit margin levels possible in the sector. Furthermore, implemented management control tools in private organizations are considered in a modified DCF-valuation, where the explicit forecast period is concluded to not add value whereby the recently privatized school is assumed to be in steady state immediately at the time of privatization.

Keywords: Privatization, fundamental valuation, private schools, management control, DCF

Tutor: Assistant Professor Kalle Kraus

[1] 20551@student.hhs.se
[2] 19823@student.hhs.se

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1. Introduction

In 2007, the public secondary school Tibble Gymnasium was privatized under a lot of ruckus. The school was sold to a company at a price which did not take into account the value of the brand or the alleged high quality of the teachers. Accused of giving undue benefits to a third party, the municipality was taken through several instances in Swedish court, where it was later found guilty of selling at a too low a price. It was not specified what this price or value should be.

Looking into the valuation aspects of taking a public sector organization private, we have discovered that suitable practices and previous academic work on the subject are largely absent. Hence, we set out to investigate what a valuation of a nonprofit public organization should look like. Research in this field has important practical implications because of the increasing amount of privatizations that have taken place in Sweden the last decade, a trend which is likely to continue.

Traditionally, a public school's revenue is approximated to its expenses by the municipality, resulting in zero profit. The existence of private players however demonstrates that it is possible to survive without the state as a safety net, implying that it is feasible to make profits given the voucher paid by the municipality. In order to understand how these private alternatives make a profit, we observe their operative characteristics through management control theory. Subsequently, we apply a fundamental valuation technique, namely the Discounted Cash Flow (DCF)-model, on the case of Tibble Gymnasium giving an estimate of its intrinsic value. We do this while accounting for management control changes and altered incentives as the school becomes a profit maximizing company.

This paper continues as follows; firstly, we clarify the purpose of this thesis. Secondly, a review of past literature and research on valuation and management control is presented. Thirdly, we describe the choice of method for this thesis. These three sections are followed by the empirical results gathered. Thereafter, we arrive at an analysis with one section for each subject, brought together by a section with practical implications. Concluding remarks and suggestions for further research summarizes the paper.

2. Purpose

Considering the recent trend of an increasing amount of privatizations following political changes in public administration in Sweden, there is a need for improved knowledge on the subject of valuing public entities turning private. At the same time, previous research on the topic is to the authors' knowledge largely absent and real life examples such as Tibble Gymnasium suggest that practitioners' knowledge of putting accurate values on public entities is deficient.

The purpose is thus to account for what the process of valuing a public entity should look like in order to accurately reflect the intrinsic value of an entity that is to become private. Additionally, it will account for the issues that arise and needs to be considered when attributing a value to an organization that has previously been public.

In order to display the great difference that presumably exists between public and private operators of a school, the thesis will use management control theory. The differences identified will be included as an important cornerstone in the subsequent discussion of how to determine an accurate intrinsic value, using well known valuation theories and applying these on the case of Tibble Gymnasium. This centrally involves presenting the problems that emerge using traditional theories on an unexplored subject in valuation theory.

3. Swedish market for education

This section presents information about the Swedish school system and its space for private players. It also presents the case study for this paper – Tibble Gymnasium.

3.1 A shift in the Swedish school system

Grades from compulsory school serve as a base for admittance to the optional secondary school. The Swedish government sets the curriculum, objectives and guidelines for how the public education system should work. Within the frameworks set by the government, every municipality can choose how to operate its education system. In 1992, Sweden introduced education vouchers, which created the opportunity for establishing private schools. Also,

students have since a few years back the right to apply to any public school or any private school they wish. The municipality in which the student lives pays the school attended, regardless of where the school is located and is required to give private schools the same level of financial support as given to public schools (The National Agency for Education, 2009). This has in turn increased the competitiveness in the education services market (Handelsbanken Equity Research, 2009).

The growth in private schools has been significant the last decade. The number of private schools has doubled since year 2000 and the number of students in private schools has doubled the last five years. Today, 17 percent of students choose a private secondary school. In bigger cities such as Stockholm and Gothenburg, 25 percent of all students who attend a secondary school have chosen a private school (The National Agency for Education, 2009). In addition, the trend of an increasing numbers of private schools is likely to continue after recent political changes in Sweden and because it has been shown that numerous municipalities support privatizations (Uppdrag Granskning, 2007).

The major players in the private school market are: John Bauer, who operates secondary schools over the whole country. They run approximately 30 schools with 11,000 students. The company is owned in part by its founder and in part by the private equity firm Axcel. Another major player is Kunskapsskolan, operating 32 schools with 10,000 students in total. The company is owned by a private person and the holding company Investor. Walthers Gymnasium is also a company which has been mentioned as an upcoming portfolio company, currently operating seven schools throughout the country. The biggest private school player in Sweden, and the only one publicly listed, is Academedia. It operates 70 schools with 25,000 students. These companies have the past decade shown strong growth, of which a significant part comes from acquisitions (Handelsbanken Equity Research, 2009).

3.2 The case of Tibble gymnasium

An example of a privatization in Sweden is Tibble Gymnasium in the municipality of Täby, which became private in 2007 after large protests. Firstly, the process was provocative as the school was bought by the school's principal and a teacher through a newly launched company, acquiring the company through purchasing the school's inventories. Many parties opposed the

manner in which the valuation was done. The price of MSEK 9,2, based on the replacement cost of the inventories estimated by an independent party, has been considered too low and the valuation technique incomplete and inaccurate. There has been no value assessed to the quality of the teachers and the reputation of the school, which would make up the goodwill part of the transaction (Mellgren, 2007). Secondly, apart from such valuation issues, the privatization was carried out without any bidding process, which in itself could understandably be a source of great critique. A teacher cooperative showed their interest in the deal but was ignored by the municipality (Rydholm, M, 2009, pers. comm., 5 Mar).

As of April 9, 2009 it has been determined in court that the municipality of Täby broke the law when they sold Tibble Gymnasium for the value of its inventories. Now a market price needs to be determined when a public entity is to be privatized (Gustafsson, 2009). This strengthens our belief that Tibble displays the need for greater clarity in valuing public operations in Sweden.

4. Theoretical review

This section of the paper is aimed at increasing the understanding of the empirical results and the analysis presented below. The section is divided into different parts. First a definition of the concept of value is presented which extends to a presentation of the technical literature used in order to present the approach on how a valuation process should be carried out. This is followed by a literature review of theories within the subject of management control and differences between public and private organizations regarding their use of incentives and control tools. The last part of this section will present a framework for analysis which is later used as a tool to systemize the analysis.

4.1 The concept of value

In order to approach the issue of valuing a public entity about to be privatized, it is appropriate to elaborate briefly on the idea of value. A general definition of value could be seen as being related to the attractiveness or utility of a good. In economic theory, the utility of a good is its ability to satisfy human needs and wants. Having this ability means that there is a demand for the good and thus it has economic value, for instance in monetary terms (Godfrey, 2006).

The value of an enterprise can be measured in different ways. Without going outside the scope of this paper, these measurements can be categorized as asset-based valuation, market value and present value valuation. Asset-based valuation can be sub-divided into groups depending on the accounting system used. These could be for example historical cost or net realizable value, where it is measured as the expected revenue from selling less costs to sell (Alexander & Nobes, 2004).

Economists see market price of a good as the marginal utility of the consumer, with the intersection of supply and demand representing the *consensus value* of the good (Godfrey, 2006). The use of market value is argued to be an advantageous valuation method because it actually exists (Alexander & Nobes, 2004).

From the view of either seller or buyer, the market price may however be lower or higher than what is considered to be an accurate or true value of the object. Because of this, and in situations where there is no active market, an object is generally considered to be best valued by discounting anticipated future cash flows to yield a present value. This is known as the *Value in use* of an asset, as defined by the International Accounting Standards Board (IASB). In that respect, as anticipated cash flows may differ from owner to owner, the value in use can be specific to the owner and its use. Another denomination of the value in use, used in this paper, is the *intrinsic value* of an enterprise, entity, or cash generating unit (Penman, 2007).

4.2 The Discounted Cash Flow (DCF) model

One technique to calculate an intrinsic value is the DCF-model, a technique for fundamental analysis (Alexander & Nobes, 2004; Penman, 2007). The DCF-model initially values the asset side or enterprise value of the company. In order to arrive at the equity value, the interest bearing debt needs to be subtracted from the enterprise value (Jennergren, 2008). Moreover, the DCF-model is largely treasured by practitioners and academics because it deals directly with the source of value, that is, cash flows in and out of the company from its operations. This is preferable since it does not use accounting-based earnings which can be misleading (Koller, 2005). There are two key value drivers of cash flow: the rate at which the company grows its revenues and profits, and its return on invested capital (relative to the cost of capital). This implies that a faster growing company is more valuable than a slower growing company if both

earn the same return on invested capital. Similarly, companies that earn higher profits from each invested dollar are worth more than companies not able to reach the same return (Koller, 2005).

The DCF-model for estimating the intrinsic value of an enterprise is formally expressed as in *formula 1*.

$$V_0 = \sum_{t=1}^{T} \frac{FCF_t}{(1+WACC)^t} + \frac{FCF_{T+1}}{WACC - g} / (1+WACC_t)^T$$

Formula 1. The DCF-model

Free Cash Flow (FCF) is the cash flow generated by the core operations of the company after subtracting investments back into the business (Koller, 2005). The FCF can be determined as in *formula 2* (Skogsvik, 2002).

$$FCF = EBIT - \Delta ONA$$

Formula 2. Computing FCF

ΔONA represents the investments back into the company – investments in Operating Net Assets[3]. EBIT[4] is treated as the operating results of the business after tax.

In the DCF-model, the company is commonly assumed to be a going concern. In the above formula, the DCF is split into two parts where the first term represents the explicit forecast period and the second the continuing value, which occurs as the company reaches steady state. The second term, the continuing value, is commonly referred to as the Gordon formula, where steady state conditions prevail and the parameters of the company grow at a constant rate (Jennergren, 2008).

$$CV = \frac{FCF_{T+1}}{WACC - g}$$

Formula 3. Continuing value through the Gordon formula.

[3] Operating Net Assets = Operating Assets – Operating Liabilities
[4] Earnings Before Interest and Taxes

The continuing value represents an essential part to any valuation because it often accounts for a large proportion of total value of a company. The assumptions built into the calculation of the continuing value, such as growth in steady state and the Weighted Average Cost of Capital (WACC) are thus important. Few companies can be expected to grow faster than the economy for long periods. An appropriate estimate of growth is therefore growth of the particular industry in general adjusted for inflation (Koller, 2005).

The discount factor used in this model is the WACC, which discounts the FCF of the company. This discount rate incorporates each claimants opportunity cost of capital - debt claimants and equity claimants. The WACC should reflect a sustainable capital structure of the business with respect to risk considerations and industry trends in general (Koller, 2005).

4.3 Defining management control

The very notion of management control has changed significantly the last decades. Before the 1950s the focus of management control was to determine costs, which lead literature to advocate the use of budgets as a control mechanism. Anthony (1965) separated management control from strategic planning and operative control in companies, resulting in increased focus on the use of accounting measures in management control. Anthony's (1965) framework built on accounting measures was later extended when other researchers started to realize that a universal system suitable for all companies did not exist. Instead there was an increased focus on adapting management control systems to the individual needs of every company. This research meant that not only accounting measures were included in the notion of management control, but also adaption of organizational structure and information systems (Anthony 1965, referenced in Ittner & Larcker, 2001).

In the 1980s, management control research became more focused on identifying value creating processes, measure these processes and lead companies in the right direction to use newly indentified potential. Through this view of management control spurred ideas on how to encourage a behavior among employees as if they were the owners of the company. In other words, employees would strive after the same things as the owners of the company (Ittner & Larcker, 2001). From this paper's perspective, management control implies defining shareholder value in a company, choosing strategies and processes that drive shareholder value, set goals,

measure and review value driving processes and to continuously review strategies and management control tools used.

4.4 Previous research on incentives and control in public and private organizations

Jonsson (1992) describes that in Sweden and in many other countries, sectors with state presence such as healthcare or education are frequently run by the state alone. Jonsson (1992) further suggest that the effect of this is less competition and a limited focus on profit making, which results in less outside pressure on being efficient. However, as sectors open up for private actors, incumbents face increased competition and likely increased efficiency as a result (Jonsson, 1992). Anell (1990) states that the transformation from public to private has implications on incentives in the organization, which changes when the privately run seeks to maximize profits. Also, this change brings about a spectrum of changes in processes and ways in which performance is measured. As a result, this has advantageous implications in prioritizing, evaluations as well as comparisons between heterogeneous activities. According to Weisbrod (1988) referenced in Anell (1990), public organizations lack these abilities largely because of the inexistence of an equally strong tool in resource allocation and evaluations of internal business processes.

Bergstrand (2003) suggests that one fundamental difference between the public and the private sector is that public ones are tied to its budget, where the budget in effect represents the revenue of the organization without any particular connection to volume or quality of the produced work. By contrast, the private organization's budget is tied to the market, where revenues appear in direct connection to the work produced. Nowadays, there is evidence that public organizations are attempting to mimic the management control activities pursued in the private sector. Bergstrand (2003) also writes that the budgets can have different purposes such as planning, goal setting, communication between units, follow-up mechanism, result prognosis, motivating staff and so forth.

4.5 Framework for analyzing management control in organizations

The framework that will be used in our analysis is defined by Merchant (1985). According to Merchant (1985) all control mechanisms can be categorized into three areas of management control: results control, action control and personnel control.

By results control, Merchant (1985) means the control of individual behavior done through the use of measuring different results, normally by using various key ratios. Results control is supposed to steer individual behavior by monitoring and using appraisal systems based on these results. Management control solely based on results control tools gives the employees a lot of freedom and responsibility since the main issue is to meet the results and not how the results were met (Emmanuel et al, 1990).

Action control aims at influencing employees to perform actions that are believed to be beneficial for the company and to defer employees from actions that are considered bad for the company. This can be done in numerous ways, for example only giving access to certain information, demand approval from managers before certain actions are performed, have explicit strategies, plans manuals and instructions for how things should work (Merchant, 1985).

Personnel control is divided into two ways of controlling individuals. The first way is to influence employees to act in a way that is beneficial for the company as a whole. The second way is to steer employees through social control which makes it difficult for the employees not to support the values and norms of the company. This can be accomplished by having management take part in the recruitment process, increasing employees' responsibilities, provide training and allocate resources to strengthen the corporate culture (Merchant, 1985).

5. Method

This paper adopts an objective view of reality (reality is not context specific), regards individual behavior as deterministic and uses empirical observations. Thus, a positive research methodology has been used (Ryan et al., 2002).

We have performed what Ryan et al. (2002) calls an experimental case study, bearing in mind our intention of developing a framework for valuation in privatization scenarios, intended to be helpful to practitioners. These procedures are developed from existing theories, using normative reasoning. Even though schools have special characteristics, the developed procedures address

issues that valuation of public service sectors have in common. Therefore, the developed procedures have a high external validity.

In our data collection, we first collected what Ryan et al. (2002) calls artifacts - tangible items such as financial statements, protocols from meetings, and media articles. For additional data collection, we took the role of visitors, and conducted interviews with the owners of Tibble Gymnasium and the head of education at the municipality of Täby. Moreover, we performed interviews with Patrik Hamilton, manager at the private equity firm Axcel (owners of the Bauer schools); analysts from KPMG Corporate Finance Global Infrastructure and Projects Group; Magnus Rydholm, former teacher at Tibble Gymnasium who now works in a public school; Erik Drakenberg (CEO) and Poul Sörensen (Head of the board) of the private school Täby Enskilda; and Per Ledin, CEO of Kunskapsskolan. The interviews were conducted in a structured manner, where similar questions have been asked to different people so that comparable information has been obtained.

The empirical results we have received from our data collection have then been analyzed with the presented framework for analyzing management control in organizations.

The choice of Tibble Gymnasium as a case for our thesis stems from its recent privatization, where school management is the same and able to give a clear picture of the differences between being public and private. As a standalone entity, Tibble Gymnasium is today the largest private upper secondary school in Sweden, and its privatization was largely acknowledged in media. This has helped in the search for data and has facilitated the probability of indentifying the most appropriate interviewees representing important parties in the Swedish education sector.

6. Empirical results

Gathered from interviews, the empirical results are essential for the subsequent analysis and begin with presenting how management control tools are used in public as well as private schools. Following this is a description of aspects that practitioners take into account when valuing schools. The ending section describes the differences in control measures at Tibble, before and after the privatization.

6.1 Management in public and private schools

One of the biggest private actors on the Swedish school market is Kunskapsskolan. Its CEO Per Ledin (2009, pers. comm., 25 Feb) claims that reputation is the most important thing for a school. A bad reputation can spread fast and significantly decrease the number of students and in turn decrease revenue. Per Ledin further says that the schools they own and run have a centralized structure and decrease costs through benefiting from economies of scale. All resources are allocated to the schools from their head office. The way they run their business has been compared to McDonald's by The Economist. The company also works on increasing hours spent with students for every teacher. Today, 27,5h out of their 40h work week is with students (i.e. approximately 69%). Per Ledin believes that this can be further improved by decreasing the time teachers' spend correcting papers and exams after class. In order to decrease the preparation time before class, Kunskapsskolan has implemented an intranet that supports the teachers in preparing for class. Additionally, Kunskapsskolan markets itself in municipalities that pay a high voucher per student. In order to keep track of the quality of the education they provide, Kunskapsskolan continuously measure grades and conduct surveys with students, teachers, and parents (Ledin, P, 2009, pers. comm., 25 Feb).

Erik Drakenberg (CEO) and Poul Sörensen (head of the board) (2009, pers. comm., 24 April) of the private school Täby Enskilda have reached high EBIT-margins[5], with levels around 10 percent being common the past few years. Much of this stems from the company's culture, which embraces strong cost awareness among its staff. Furthermore, Täby Enskilda has a cautious approach to recruitment. Before recruiting, the applicant is required to repeatedly demonstrate skills in the classroom, in front of students and the CEO. The students explicitly come as first priority and the main target is to make students choose Tibble Enskilda as their first choice when applying to secondary school. Lastly, both interviewees recognize the fact that the school has a CEO and a principal, not one employee taking on both tasks. In their opinion, this makes operations run more effectively since the CEO can focus on administrative issues while the principal focuses on the educational agenda (Drakenberg, E, Sörensen, P, 2009, pers. comm., 24 April).

[5] EBIT/Revenue

Magnus Rydholm (2009, pers. comm., 5 Mar), teacher at the public school Åva Gymnasium in Täby and former teacher at Tibble, with more than a decade of teaching experience, states that the difference between private and public schools is that private schools operate with financial gain as their first priority, taking any means necessary to attract more students. Every additional student brings an additional student voucher, hence increasing revenue for the school. In a public school, incentives to increase revenue do not exist. Instead the focus lies more on spending the money allocated so to avoid having the municipality decrease the budget for the following year. In order to follow up on the quality of education provided at Åva Gymnasium, they measure how many students apply every year and the grades these applicants' have. They make no effort at increasing time spent with students for every teacher. Instead, it is in the hands of every individual teacher to build experience, and in turn decrease the time it takes to prepare for classes and the time it takes to correct class work, essays and exams after class. Additionally, Magnus Rydholm claims that the competition for students have become tougher in recent years, and public schools need to act more as private players in order to attract new students (Rydholm, M, 2009, pers. comm., 5 Mar).

Homar Kadir (2009, pers. comm., 4 Mar), the head of education in the municipality of Täby confirms that a public school is not intended to make a profit. He continues that the best result a public school can make is zero since that maximizes what the school can do with allocated resources. He continues with explaining that if the public school makes a profit, one third of that profit is taken straight back to the municipality. The other two thirds are primarily for the use of the school itself, in support of its budget in the year to come.

Finally, Patrik Hamilton (2009, pers. comm., 18 Feb), manager at the private equity firm Axcel, says that there is a clear investment case in private schools where processes can be made more efficient, that is, where the cost per student can be decreased. He further stresses the fact that this can only be done without lowering the quality of the education. A schools reputation is its most important asset and it changes fast if an owner cuts back on resources dedicated to the students or simply if the quality of the teaching environment deteriorates.

6.2 School valuation techniques by practitioners

According to Patrik Hamilton (2009, pers. comm., 18 Feb) at the private equity firm Axcel, the advantage of buying a school is that it is fairly simple to predict revenues. This is because schools are paid a relatively stable amount of money per student each year from the student's home municipality. Thus, if the number of students entering a school can be predicted, the revenue can be estimated with accuracy. Handelsbanken equity research (2009) confirms this by saying that due to the unique market conditions, 85 percent of a schools revenue is known already before the start of the operating year. Moreover, the government agency Statistics Sweden keeps thorough statistics on demographic changes, facilitating the prediction of the number of students entering each year. A downside to investors comes from having the state (the municipalities) as the sole revenue source. This could possibly make revenues sensitive to policy changes. On the other hand, these changes have not been seen historically and it is unlikely that Sweden, being politically stable, would make any radical changes in school politics (Hamilton, P, 2009, pers. comm., 18 Feb).

Analysts from KPMG Corporate Finance (2009, pers. comm., 4 Mar), who have valued schools before, claims that when predicting revenues for a school, one needs to think of the demographics in the area where the school is located and the type of education they provide. It is also important to take possible changes in strategy, possible implementation of new education, changes in marketing areas and possible changes in student vouchers into consideration. In addition to the voucher, a school might also get revenue from selling lunch, having a cafeteria and subletting office space. KPMG also claim that factors of value creation are: marketing, development of a niche type of education, teachers, management, the fact that they do not have to give back profit to the municipality, more effective administration, and having modern facilities (KPMG, 2009, pers. comm., 4 Mar).

When it comes to predicting operating costs for a school, the most common way according to KPMG is to use comparable companies (comps) and look at their EBIT-margin. The operating expenses are then calculated by deducting EBIT from revenues. However, finding good comps in the Swedish private education sector is difficult as schools are often different from each other, especially in terms of size of the student body and offered education programs (KPMG, 2009, pers. comm., 4 Mar).

The discount rate KMPG uses is chosen by looking at a stock exchange average and then adjusting according to perceived operating risk in the specific object valued. In past transactions that the company has carried out, the discount rate has normally been adjusted upwards by 1-4 percent, mostly due to the small size (in terms of number of students) of the schools they have looked at, making the operations more risky (KPMG, 2009, pers. comm., 4 Mar).

Magnus Rydholm (2009, pers. comm., 5 Mar), stresses that the reputation of the school, the number of students it has and the competence of the teachers need to be accounted for in a valuation.

When it comes to valuing something that is public, however, there is a fundamental lack of accounting data. The only historical data that exists are budgets and investment budgets, and in the case of Täby, budgets are accounted for collectively for all upper secondary schools in the municipality. In addition, EBIT- margins at public schools have historically been zero, since the municipalities adjust student vouchers and budgets, reaching a match between the two based on predicted needs. This also implies that public schools have the incentive of spending the student vouchers in order not to get less money the following operating year. Often, as noted above, there is also a system where the schools have to repay money left at the end of each operating year to the municipality. The school is therefore not able to invest such money into their operations (Kadir, H, 2009, pers. comm., 4 Mar).

6.3 The case of Tibble Gymnasium

Maj Dellström and Hans Byström (2009, pers. comm., 24 Feb), the owners behind the privatization of Tibble Gymnasium, say that turning the school private has resulted in a more efficient handling of resources. An example they gave was that it took them 24 hours from the discovered need of a new math teacher until the time one was hired. They both assert that this would not be possible in a public school. When Tibble Gymnasium was a public school, the principal had to meet with the municipality officials and the principals of the other schools two times every week to discuss school operations. They also claim that supporting their IT systems is now 40 percent cheaper than it was before, handling of payroll is more efficient and control of cash flows has increased significantly. When Tibble Gymnasium became a private school, they

also started several new education programs in order to further attract students. In addition, a university lector was employed to educate teachers in pedagogy. A mentor program has also been implemented in order to boost the students' motivation. According to surveys, 98 percent of the students are happy with the education today. The owners also aim at further educating the teachers in the subjects taught. The owners further argue that public schools mostly exist due to ideological reasons (Byström, H, Dellström, M, 2009, pers. comm., 24 Feb).

After the privatization, no new measures of efficiency or quality have been introduced, but they use the same measures as before the privatization. One of these is time spent with students for every teacher. Today that measure is 28 percent, but they hope to increase that percentage in the future. They believe that, on average, one hour before and one hour after every class is a reasonable goal for the future, that is, 50 percent of every teacher's time is spent with students. Today, there are no plans on changing marketing efforts so as to attract students from municipalities that pay a higher voucher. Rather, they want students from Täby to be able to have a good education close to home. According to the municipality of Täby, the current facilities of Tibble Gymnasium have room to accommodate 1250 students. The owners claim that having as many students would be bad for the quality of the education (Byström, H, Dellström, M, 2009, pers. comm., 24 Feb).

To ensure a good quality of the education, the owners intend to start looking at how much students improve their grades from lower secondary school up to the point of graduation from Tibble Gymnasium. The goal is to provide a good education rather than being economically efficient. However, they are proud of having a strong cash flow and annual revenue of 85MSEK aiming at reaching an annual revenue growth rate of 3 percent. Both owners claim that the drawback of being a private player is the lack of financial safety, guaranteed for a public school. On the other hand, they recognize that the lack of a financial safety net provides incentives for doing a good job (Byström, H, Dellström, M, 2009, pers. comm., 24 Feb).

7. Analysis part 1 – The management control perspective

This first part of the analysis accounts for the management control perspective that needs to be considered in the subsequent valuation of Tibble Gymnasium. Firstly, the analysis presents the importance of realizing differences in value in use for different owners. Thereafter management control tools used by private schools are discussed through Merchant's (1985) framework for analysis, categorizing tools into results control, action control and personnel control. Ways in which such tools are implemented by potential buyers is taken directly from the empirical evidence of this thesis. The section does not imply that the suggested control systems are present in only private schools or in all private schools, but are aimed at clarifying what sort of tools that can be used in order to increase the value (for an investor) and thus needs to be considered in the valuation process.

7.1 Determining differences in value in use

As is suggested by performed interviews; results control, action control and personnel control actions are present in private as well as public schools. However, as identified by Anell (1990) as well as by the empirical results, the lack of profit motif in the public school system makes the use of management control tools different between private and public schools.

Consistent with Emmanuel (1990), it has been identified in our interviews that even though control systems in public and private schools show similarities, the used tools appear to be a mix of components put together for different purposes. An example taken from results control measures are the use of budgets, which has been frequently accentuated in both private and public schools included in this study. An analysis of different purposes of budgets proposed by Jan Bergstrand (2003) suggests that the aim of budgets in the municipality of Täby has been to allocate resources to the different public services within the municipality and as a follow-up tool. In the private schools, budgets are instead used as a tool for forecasting results and a way to motivate employees to perform well, for example by becoming cost conscious. By contrast, public schools' overconsumption of allocated resources has proved not to have any significant negative consequences. If the school makes a loss, it is simply backed up by the municipality. Naturally, this does not necessarily mean that the school can show red figures on a year on year basis. As indicated through the empirics, the best result a public school can make is zero. The

differing aims with management control tools between public and private are also true for action control and personnel control tools.

Based on the work that has been conducted, a view of this paper is that a municipality in a privatization scenario needs to realize these fundamental differences in incentives. It needs to picture a public entity suddenly losing its safety net, becoming an organization which seeks to maximize profits. In turn, this change brings about changes in how the entity is managed and perhaps, how it needs to be run in order to survive. In a similar manner, the acquiring party will presumably indentify ways in which it will seek to boost profits and add value – its management control tools.

Due to the explained existence of private schools following the differences in incentives, it is apparent that the value in use for a private investor is higher than ditto of the public sector. This realization is of crucial importance for the municipality when doing a valuation of a school, and it is argued in this paper that a valuation of a school should be based on the value in use for potential buyers of the object. In other words, when the municipality wants to put a value on a school, it should do this by thinking what the object could be worth for an investor having implemented appropriate changes. Thus, the first step in determining possible value in use for a private investor is to determine the potential buyers of the school. These buyers can be seen in Appendix A, and represent the largest actors in the Swedish market for education, which have performed most acquisitions historically.

In the second step, the value driving changes that investors pursue should be considered. This is done in the following section, categorizing management control tools according to Merchant's (1985) framework.

7.2 Results Control

Results control tools are the most frequently occurring types of management control tools used by private schools. A detailed budget used for providing a forecast of results represents a common example. In public schools, budgets are made together with the municipality and are a means of allocating resources between different public services. As stated, this has in many cases led to using more resources than actually needed, making sure that budgets are not decreased in coming years as indicated by Bergstrand (2003). Consequently, this has led the municipality to

purposely budget under the actual expected costs. This also has the effect of providing private schools with a coupon that is below the actual cost per student. As mentioned above, the municipality's voucher per student is often set to approximate the budgeted cost per student. Because of the inherent profit motif in the private school, results control measures needs to be aimed at lowering costs and increasing revenue and are thus fundamentally different than those of public schools.

As a complement to budgets, our empirical results have shown that private schools also use other measures of performance in order to keep costs to a minimum. An example of this is the ratio of hours of work with students over total hours of work for teachers. In the private schools observed, approximately 70 percent of the teachers' working time was spent with students compared to approximately 25-30 percent for the public schools and Tibble Gymnasium. In order for teachers to be able to teach 70 percent of their working time, private schools have worked on decreasing the time it takes to prepare for class by providing teachers with readymade lecture plans and slides. To decrease time spent correcting class work and exams, smaller exams occurring on a more frequent basis and which are easier to correct are used. In all, this would increase the pace of the work flow of the individual teacher, being able to go through teaching material more effectively.

In order to use the buildings as efficiently as possible, the number of students per square meter is measured. If the school concludes that more space than is needed to provide good education is available, this extra space can be let, increasing revenue. Private schools also have the incentive to market themselves in municipalities paying higher vouchers with the intention of increasing revenue. Targeting other municipalities seems more common among private players than for public, which are traditionally set up to cater the students in the home and adjacent municipalities.

There is a consensus among all schools involved in the study that no cost savings can be done at the expense of the students. Resources that directly benefit the students are a major part of a school's competitive advantage and are therefore often emphasized in marketing programs. Neglecting the quality of the teaching or decreasing direct resources to the teaching is a short-term behavior that is seen as hazardous to the operations of a school. Logically, having decreased number of applications from students and a negative reputation has a direct impact on revenues.

Therefore a lot of energy is put on results control measures that are not financial but rather controls the quality of the education that is provided by the school, ensuring that the quality of the education lives up to the expectations of the involved parties. This is normally done by doing surveys with parents, students and teachers, following up on the number of applications the schools receive, what grades the applicants have, the development of grades in the school and the number of students that quit.

7.3 Action control

The best example of controlling actions is the use of readymade teaching material by Kunskapsskolan. By having this framework ready for teachers, management can make sure that appropriate teaching objectives are tackled, and done so within a certain time frame. Also, the inherent cost awareness present among the private schools controls the actions of the employees in ways that are beneficial for the school as a whole. This can be for example choosing suppliers of IT, office material and food with the lowest prices and negotiating prices with suppliers.

Closely related to cost awareness and a way frequently used by private schools to increase cost awareness, is to give individual employees budget responsibility. This creates a full picture of the organization for the employees and controls actions in a way that is beneficial for the school.

7.4 Personnel control

Personnel control has been showed in private schools through a corporate culture which has been closely linked to results control and action control tools. By giving employees responsibility over budgets, the inherent cost awareness mentioned has grown to become a corporate culture. Employees become proud when meeting the results measures set up by the organization. When the school is working well, there is also a sense of belonging and being proud of being part of something good, as appears to be the case for Tibble Enskilda. The feeling of responsibility could also act as a way in which to align the interests of the employees with the interests and goals of the company.

The recruiting process has also proved to be important in private schools. The recruitment of new teachers is more a task for top management, and a lot of effort is put into getting people who fit into the corporate culture and have the potential to become popular among students.

In sum, the above results, action and personnel tools are management control tools used in practice by different schools. It is not suggested that all of these fit the purpose or properties of the specific object being valued. What is right for the specific object will be contingent on environmental circumstances as proposed by Emmanuel et al (1990).

The various tools applied to increase value in use are assumed to be implemented by the potential buyers. These needs to be kept in mind when quantifying the effects of management control in a private school. How to put a value on the school determined by value in use for the investor will be covered in the next section.

8. Analysis part 2 – Valuing a privatized organization

The second step of the analysis, after identifying tools which can be used to take the school to its maximum value in use, arrives to the question of how to determine the value of the school while taking such tools into account.

Privatizations of public schools are rare and every case is likely to differ from the other, making each case more or less unique. Being able to use management control tools in different ways for every object, the investment case is likely to become different for each privatization. Moreover, different potential buyers are likely to have different value in use because of dissimilar use of value adding management control tools. Hence, fundamental valuation, by for example using the DCF-model, is the most appropriate method of determining the intrinsic value of a school. Valuation methods using certain multiples could potentially serve as a sanity check for the DCF-valuation. That is, if the comparable companies are reasonably similar in terms of the size of the school and its demographic surroundings, the expected growth rates and the entity's profitability.

8.1 Obstacles in the application of the DCF-model

There are, however, obstacles in the application of the DCF-model on public entities such as Tibble. As elaborated upon in the previous section, public units usually make a zero profit. Potential positive results are ploughed back into the organization, not wanting to face a decreased budget from the municipality in subsequent years. This implies that operating results

(EBIT) are reinvested into the operations until FCF equals zero. Considering the incentives of the management, they appropriately remain at zero as the horizon point in time is approached and the school enters steady state. Because of this, the DCF cannot be used as traditionally by basing FCF forecasts on historical accounting.

Also important to note, with historical earnings being non-existent (or rarely positive), it is difficult to apply the use of multiples for valuation sanity checks, for instance the price-to-earnings ratio or the enterprise-to-EBITDA[6] ratio.

Furthermore, the fact that neither the municipality nor the school pursues any bookkeeping similar to those of private companies, for example emitting traditional annual reports, makes it complex to identify and determine accounting items that are essential for valuation. For example when forecasting FCF's or attempting to determine the cost of capital (e.g. WACC) given a certain capital structure. This situation is aggravated by the municipality keeping budget items collectively for all public secondary schools in Täby. Naturally, this makes it difficult to derive historical accounting for Tibble exclusively. These two aspects combined limit the ability to use historical accounting data to forecast future performance of the company.

Hence, these issues require a modification of the DCF-model when applied to a public organization such as Tibble Gymnasium.

8.2 Modifying the DCF

With regards to the obstacles when applying the DCF-model on Tibble, forecasting the FCFs in the explicit forecast period is complex. Each period (e.g. a year) requires uncertain assumptions on the extent to which the now profit maximizing entity is able to implement management control mechanisms to boost revenues and decrease costs. The most appropriate remaining method to quantify such changes is to examine potential buyers as comps. However, using potential buyers in an explicit forecast period compared to using the Gordon formula alone brings marginal benefits that are too low to be justified. This has resulted in a modification of the DCF-model in which the school is assumed to be in steady state at the time of the valuation (i.e. the privatization), suggesting that only the Gordon formula should be used. This is reinforced by

[6] Enterprise value divided by Earnings Before Interest Taxes Depreciation and Amortization

considering that running a school such as Tibble Gymnasium is a relatively safe business, largely due to the school having all operations set up ready for the privatizing party to assume and from having revenues that are, as noted, stable and relatively easy to predict. From that perspective, the organization is unlikely to change dramatically in the years to come, except for the likelihood of increased profitability. Similarly, with a cost conscious management, the cost per student is unlikely to increase unexpectedly. These factors suggest that the school in fact is already close to or in steady state, which means that the value of the company is calculated through the Gordon formula, not including the explicit forecast period.

However, the issue of the school being public and thus running continuous zero FCF remain, independent of the choice of valuation technique. FCF in steady state is what is needed in order to proceed with the modified DCF-model. Bearing in mind the formula stated in the theoretical review, the needed components for computing FCF in steady state can easily be identified as:

$$FCF = EBIT - \Delta ONA$$

Formula 4. Computing FCF

Thus, EBIT in steady state and ΔONA must be determined in order to get the FCF in steady state.

8.3 ONA and steady state ΔONA

As noted above, one of the few items accounted uniquely for Tibble, is its tangible assets, which includes all its inventory and equipment valued at replacement cost. According to Maj Dellström (2009, pers. comm., 24 Feb) this is all assets apart from cash and cash equivalents that are used in the school. All assets are in place to serve the education service given at Tibble Gymnasium, with no financial assets other than a relatively small account with cash, which is used for operational purposes. Thus, the value of the inventory and equipment, an estimated 9,2 MSEK, seemingly represents the ONA of the school, especially as the public school is financed by the municipality and not external debt. As stated previously, this figure has been estimated by an independent party, obtaining a fair value by looking mainly at the replacement cost of the object.

As noted, steady state implies that the company grows at a constant rate. ΔONA is therefore determined by simply taking the growth rate of Tibble as a whole in steady state multiplied with the value of ONA at the horizon point in time. This growth rate is discussed below.

8.4 EBIT in steady state

Determining the EBIT in steady state represents a key stage in the valuation of Tibble Gymnasium. Whereas the change in ONA appears to be rather easy to determine for Tibble, the EBIT estimation is a more critical phase. EBIT can be determined as:

$$EBIT = \left({}^{EBIT}/_{Revenue}\right) \times Revenue$$

Formula 5.Computing EBIT

The EBIT-margin is a critical estimation because it accounts for the possible changes on the organization from becoming a private player (i.e. maximizing profits). It incorporates management control mechanisms to, for example, become more cost efficient. While the previous section of this analysis pointed out possible management control mechanisms in order to add value, this piece arrives to approximately how much Tibble can possibly raise its margins, operating under full potential. Naturally, this is an uncertain step. A well built approximation can however be obtained by taking into account the possibilities available to Tibble, discussed in part one of this analysis, and by for example looking at the private schools included in this study that have implemented such changes.

8.5 EBIT-margin – Benchmarks

A method to quantify Tibble's possibilities to improve its operations is by using a comparison with actual EBIT-margins, reached by potential buyers. Although the use of comps alone is debated in academic literature (Koller 2005), this paper argues that it is the most plausible pathway to determining a possible profit margin for the private Tibble.

When a municipality approaches the valuation of an entity it is about to sell, it should consider who the potential investors might be, as discussed in the first part on the analysis, and what margins they have achieved. Arguably, these investors can be split into two categories. On the one hand these are companies that hold a portfolio of schools and on the other, potential

investors might be the staff of the school itself, as was the case in Tibble's privatization. The intrinsic value of Tibble should reflect what value any outside investor puts on the school. The portfolio companies can however be thought of as more experienced investors. Also, with a number of schools in the company, they can reap benefits from economies of scale, potentially increasing their operating margins. The point is that the value of Tibble should reflect the highest value in use among potential investors. The highest value in use is suggested to come from these more experienced investors, with a portfolio of schools displayed in Appendix A. The benchmark margin is thus obtained by taking the average of these large operators' margins. In turn, this will yield the highest value in use for Tibble and thus the theoretical upper limit price at which an investor is willing to acquire the school.

As Appendix A shows, the potential buyers are unfortunately not many, limiting the statistical accuracy of determining a benchmark. Nevertheless, as described in the background of the Swedish market for education, these companies are the most potential buyers. The benchmarks chosen are all relatively established and old in order to ensure that margins are not of a short-lived unstable nature. Volatility between years can possibly affect the reliability and the true long term indication of the margin level. This issue has been dealt with by taking an average of the past four operating years EBIT-margin. These aspects have been considered in order to ensure that the chosen potential buyers emit steady state characteristics, increasing the applicability of the modified DCF. Finally, an average of the chosen EBIT-margins has been calculated in order to reach a definite benchmark on the EBIT-margin. As the appendix displays, our chosen potential buyers have an average margin of 5,5 percent. Moreover, the company Walthers have a historical mean of 13,9 percent, which is high compared to the other companies. Possibly, as explained by Ledin (2009, pers. com., 25 Feb), this comes as a result of economies of scale and because a portfolio of secondary schools enables outsourcing of certain operations to third parties, making the organization more cost efficient.

There are deficiencies with this method of obtaining a benchmark. Partly, the sample population of companies is relatively low, which possibly limits the statistical accurateness of the mean. It can also be argued that the sample should not only include the most potential buyers but also other private school with similar characteristics to Tibble. Other private schools are not included because this paper attempts to find the theoretical upper limit reservation price – the school's

value in use from the potential buyers' point of view. Furthermore, the benchmark that has been calculated is truly merely a benchmark. It is used in order to reach an understanding of possible margin levels when Tibble is included in a portfolio. What is essential, however, is that this benchmark can be adjusted upwards and downwards showing how much Tibble's value changes, everything else kept constant (*figure 1* below).

8.6 Tibble's revenue in steady state

The past few years, the size of Tibble's student body has been well above 1100 students, where the school's maximum capacity is at 1250 students, using the existing facilities. From the perspective of the private investor, it seems likely that revenues should be maximized, which means that the school should operate at or close to full capacity. Considering commonly acknowledged forecasts of Sweden and Täby's population growth, it is very possible that Tibble would face a sufficient supply of students in the years to come.

In 2006, the last complete accounting year before the privatization, the school had 1126 students together generating a revenue of MSEK 79,9. This gives a revenue per student (education voucher) of SEK 70 967. Bearing in mind that the voucher has been historically stable, the calculated revenue per head could be used in a steady state scenario of Tibble. Moreover, for reasons stated above, the number of students in steady state should be approximately 1250 - any private investor would supposedly prioritize having operations at full capacity. This yields the following steady state revenue for Tibble:

$$SEK\ 71000 \times 1250\ students\ = MSEK\ 88{,}7$$

This calculation assumes that the private operator will not seek to find niches where it could receive a higher voucher per head. Rather, the operator is presumed to continue giving the same type of education that Tibble has been offering historically. In addition, it also assumes that the new operator will not change the coverage areas in which it attracts its students. Thus, Tibble's steady state revenue is based on attracting students from the same municipalities as has been done historically. This assumption is made on the basis that Tibble Gymnasium is one of two big secondary schools in the municipality of Täby. Therefore, students from Täby will likely constitute a major part of the school's students also in the future.

8.7 Growth in steady state

A key component of the Gordon formula is the growth rate in steady state. In Tibble's case, the real growth in steady state is set to zero percent. In perpetuity, it is hard to imagine a school such as Tibble to achieve real growth. There are some obvious limits to growing the organization, for example the fact that the school has a maximum stand alone capacity of 1250 students set by the municipality for safety reasons. Moreover, taking into account expansion possibilities such as constructing new facilities seems to be a too bold assumption to make. In the Gordon model, the nominal steady state growth is used. The nominal growth rate has been set to 2 percent, which corresponds to the Swedish central bank's inflation target. This growth figure is also used for calculating the change in ONA, as explained above.

8.8 Base case cost of capital in steady state

Selling or acquiring Tibble, the WACC of the school needs to be determined in order discount future FCF and calculate the school's intrinsic value. As the state run school has neither debt nor equity in the same meaning as a private school, the capital structure cannot be observed. Thus the WACC computation for Tibble lacks these essential inputs. Additionally, having no explicit interest bearing debt means that the cost of debt for Tibble cannot be computed. The cost of equity used in the WACC-formula can be determined using CAPM, as noted in the theoretical review. As the risk-free rate and the market risk are common to all companies, these could be applied to Tibble. Beta, on the other hand, is difficult to determine since there is no historical data on how much ownership in Tibble covaries with a stock index.

In this discussion on how to accurately determine the intrinsic value of Tibble, it needs to be noted that different WACCs will yield different intrinsic values of Tibble, given its FCF in steady state and the fact that the exact WACC cannot be calculated for a public organization similar to Tibble. Relative to any private company, there is therefore a need for an approximation in determining the WACC for an object about to become privatized. An appropriate alternative to determine WACC is to obtain the WACC for a listed school company. This paper has done so for Sweden's only listed company in the same sector as Tibble - Academedia. The calculated WACC for Academedia in year 2006 is 7,8 percent (see Appendix B for calculations and assumptions). Similarly to changing the EBIT-margin, the cost of capital is adjusted in order to observe the impacts on the value of Tibble in the next section.

8.9 Determining the value of Tibble Gymnasium

All necessary parameters are at this stage set for determining FCF in steady state. Firstly, EBIT in steady state can be calculated:

$$5{,}5\% \times MSEK\ 88{,}7 = MSEK\ 4{,}9$$

Secondly, the change in ONA in steady state is calculated:

$$2\% \times MSEK\ 9{,}2 = SEK\ 184\ 000$$

Hence, the FCF in steady state is determined:

$$MSEK\ 4{,}9 - \text{SEK } 184\ 000 = \text{MSEK } 4{,}7$$

As FCF in steady state has been computed, the intrinsic value of Tibble can be calculated using the Gordon growth formula:

$$CV = \frac{FCF_{T+1}}{WACC - g} = \frac{MSEK\ 4{,}7}{(7{,}8\% - 2\%)} = MSEK\ 81$$

This value has been denominated *base case* in order to pinpoint that this value is based on the benchmarks on EBIT-margin and WACC respectively.

9. Practical implications regarding the base case value

EBIT-margin and WACC have, when altered, a great impact on the value of Tibble Gymnasium. Firstly, it is uncertain if the private player will achieve an EBIT-margin of 5,5 percent. The end result, as the potential buyers in Appendix A respectively display, is that margins could in fact become both higher and lower. However, a lower figure such as 5,5 percent can be considered more conservative and more likely to be sustained in the long run. The effect on Tibble's value when changing the EBIT-margin and keeping all other components constant can be seen in *figure 1*. As the figure shows, a higher EBIT-margin through a more successful implementation of various management control instruments leads to a higher value of the school.

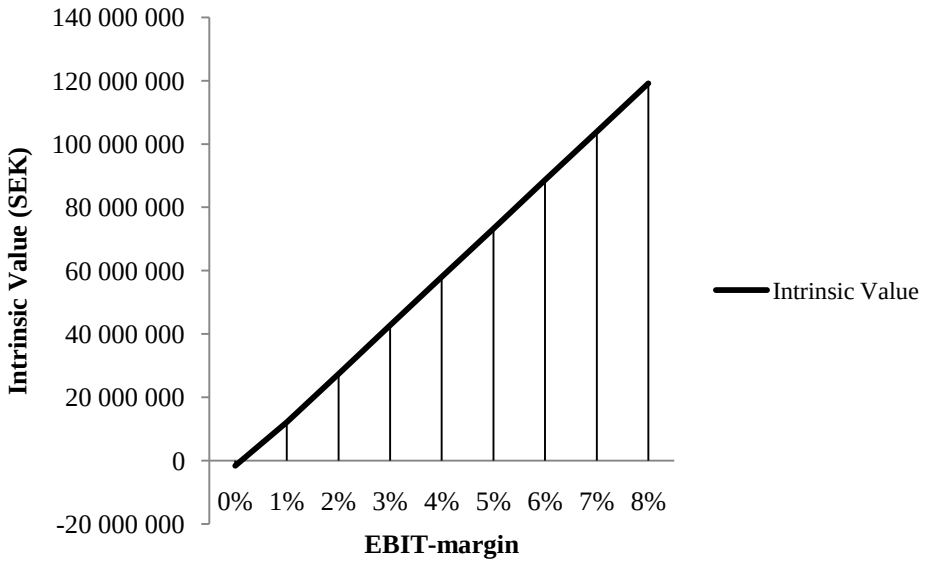

Figure 1. Impact on intrinsic value from altering EBIT-margin keeping WACC at 7,8%

Secondly, the cost of capital can be argued to be low considering practitioner examples such as Handelsbanken (2009), where a 12 percent WACC is used for the benchmark Academedia in 2008. This stems from adding a 4 percent risk premium for small cap companies. A similar approach is used by KPMG as noted in the empirical results. The accurateness of doing so can, however, be debated and does not have support from academic work. As shown in *figure 2*, changing the cost of capital leads to great value swings on Tibble. As the cost of capital increases, the lower the value of Tibble becomes, keeping everything else constant. Understandably, a higher opportunity cost implies that the investor is willing to pay less for the object. The relationship between Tibble's value and the cost of capital (WACC) is illustrated in *figure 2*. *Table 1* shows impact on intrinsic value from altering both WACC and EBIT-margin.

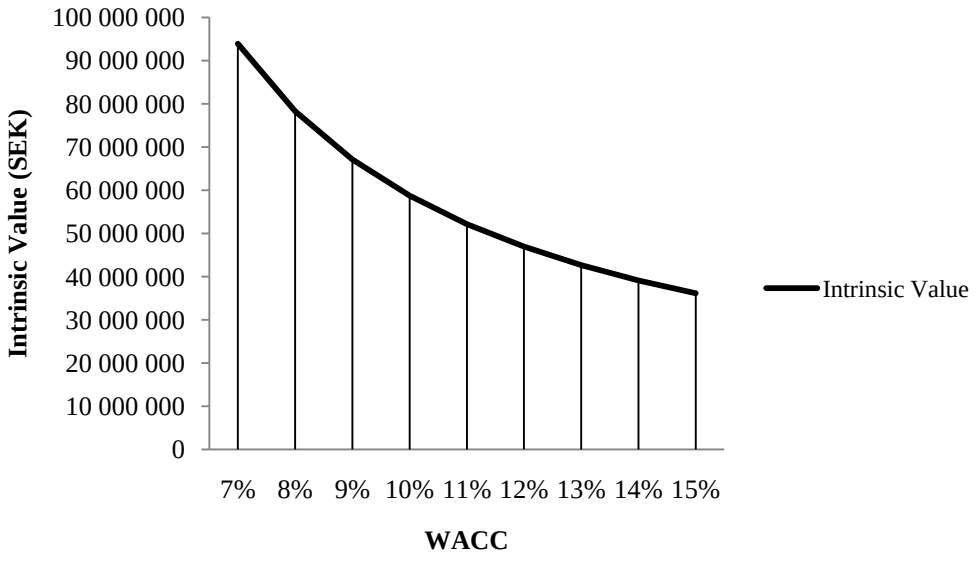

Figure 2. Impact on intrinsic value from altering WACC keeping EBIT-margin at 5,5%

		EBIT-margin		
		2%	**5,50%**	**8%**
WACC	**7,5%**	28 912 336	85 363 470	125 685 709
	9,5%	21 202 380	62 599 878	92 169 520
	11,5%	16 738 721	49 420 957	72 765 411

Table 1. Sensitivity testing: impact on intrinsic value (SEK) from altering WACC and EBIT-margin

Looking at the base case value of Tibble, obtained by using the benchmark EBIT-margin of the potential buyers and the cost of capital of a potential buyer or comps such as Academedia, it needs to be said that this price does not need to equal the selling price of the school. Rather, it represents the upper limit of what potential investors are willing to pay given these estimations. When the school is privatized it is up to both the seller and the buyer to negotiate the "walk away" price (Ernst & Young, 1994). This is where it is good to know, for both parties, the value in use for the potential buyer. Logically, the investor's payoff decreases the closer the final price is to the schools value and vice versa.

From an investor's point of view, it is perhaps easier to determine value in use of the school since this party knows his/her required cost of capital for an investment. In other words, the investor knows the opportunity cost that needs to be exceeded in order for the investment to be worth making. Thus, this paper is mostly of use for a municipality wanting to sell its unit, getting

an idea of how the private investor reasons. Because of the obstacles in valuing a unit that has traditionally been running a zero profit policy, it is less feasible to obtain an exact value due to reasons stated above. From a valuation perspective, it is thus crucial to bear in mind the impact of changing the two major value driving forces of EBIT-margin and WACC related to Tibble (as shown in the two diagrams above). The municipality needs to determine the level of these in order to understand the potential value in use the school has being private. Doing so will increase the possibilities of maximizing selling price and thereby ensuring the taxpayers' interests.

10. Concluding remarks and suggestions for further research

The purpose of this thesis has been to account for what the process of valuing a public entity should look like in order to accurately reflect the intrinsic value of an entity becoming private. This paper has ignored political aspects of why a municipality would sell at a specific price. It has taken the perspective that it should, like in any other sales scenario; attempt to sell at a high price. It is natural that political and ideological aspects could have an influence on value related decisions.

It has been argued that the municipality in a privatization scenario should think what the object is worth for a potential buyer. To that end, first an investigation of who the potential buyers are should be conducted. Following this, an analysis of what management control measures could be taken on in the specific object. This is done in order to get an understanding for what EBIT-margin a new owner could obtain. Furthermore, when using the DCF-method, this paper argues that predicting FCFs in the explicit forecast period adds marginal benefits to the valuation. Instead steady state can be assumed to prevail directly, and thus only a continuing value needs to be calculated through the Gordon formula.

These conclusions have potentially widespread practical implications due to contemporary trends in the running of schools in Sweden. More students choose to attend private schools and privatizations are likely to continue in the future. With these privatizations emerges a need for a valuation process that accurately arrives at the intrinsic value of the object.

It is in the belief of this paper that this approach is applicable to any public entity, as long as appropriate estimations are considered. This is especially important regarding possible operating profit margins (EBIT-margins) after having implemented management control tools and determining the appropriate cost of capital.

Suggestions for future research include broadening the scope to an international level and see to transactions in other countries as well as discovering potential foreign investors. There is also a room for more detailed research on how to quantify EBIT-margin changes directly from management control tools. This could suggestively be done using a management control toolbox applied more customized to the specific object. Nevertheless, this thesis has accounted for a valuation process that can be seen as the first building block in a series of research that needs to be conducted in order to accurately distinguish the intrinsic value of a public service about to be privatized.

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Appendix A – Potential buyers

Potential buyer		Kunskapsskolan	Walthers Gymnasium	Academedia AB	Vittra AB
EBIT (TSEK)					
	2008	27 711	5 255	94 647	3 515
	2007	27 121	15 832	69 847	12 556
	2006	1 900	13 029	11 029	8 160
	2005	16 294	7 182	-17 771	6 715
	2004				
Sales (TSEK)					
	2008	656 872	86 639	1 312 598	555 740
	2007	570 922	85 973	841 401	496 677
	2006	484 555	69 919	221 729	457 177
	2005	436 165	56 621	226 191	433 610
	2004				
Average Sales		537 129	74 788	164 810	485 801
EBIT-Margin					
	2008	4,2%	6,1%	7,2%	0,6%
	2007	4,8%	18,4%	8,3%	2,5%
	2006	0,4%	18,6%	5,0%	1,8%
	2005	3,7%	12,7%	-7,9%	1,5%
	2004				
Average EBIT-margin		3,3%	13,9%	3,2%	1,6%
Average of potential buyers		5,5%			

Source: Affärsdata

Appendix B – Defining the WACC

The WACC is set up by taking each claimants cost of capital multiplied by its corresponding market value weight. Calculating the WACC for Academedia with large financial assets in 2006, we have used the expanded version of the WACC, taking into account these assets more explicitly. Since the interest on the debt weight is tax-deductible, this cost of capital is taken after tax. The same applies for interest income on financial assets. Net debt is the company's financial debt less financial assets (Skogsvik, 2002). Hence, the WACC can be formulated and reformulated as (Koller, 2005):

$$\mathrm{WACC} = \mathrm{r_E} \times \frac{\mathrm{E}}{\mathrm{E} + \mathrm{ND}} + (1 - \mathrm{T_C}) \times \mathrm{r_{ND}} \times \frac{\mathrm{ND}}{\mathrm{E} + \mathrm{ND}} \mathrm{r_E}$$

$$= \mathrm{r_E} \times \frac{\mathrm{E}}{\mathrm{E} + \mathrm{D} - \mathrm{C}} + (1 - \mathrm{T_C}) \times \mathrm{r_D} \times \frac{\mathrm{D}}{\mathrm{E} + \mathrm{D} - \mathrm{C}} + \ (1 - \mathrm{T_C}) \times \mathrm{r_C} \times \frac{\mathrm{C}}{\mathrm{E} + \mathrm{D} - \mathrm{C}}$$

Where the notation is:

E	Market value of equity
ND	Market value of net debt
D	Market value of debt
C	Market value of financial assets not used in operations
$\mathrm{r_E}$	Nominal required rate of return on equity
$\mathrm{r_D}$	Nominal cost of net debt, assumed equal to the nominal borrowing rate
$\mathrm{r_C}$	Nominal interest income on financial assets
$\mathrm{T_C}$	Tax rate[7]

We have determined the required return on equity through CAPM as defined by Jagannathan & McGrattan (1995) for 2006; nominal cost of debt by calculating the ratio of interest expense over interest bearing debt; similarly interest income over financial assets for return on financial assets.

[7] 30 percent in Sweden

Doing so, we arrive at a WACC for Academedia of 7,8 percent. Components for calculating the WACC have been obtained from Academedia's 2006 annual report (Academedia, 2007).

The nominal risk-free rate for 2006 used in CAPM is 3,7% obtained from the Swedish Central Bank (2009). Additionally, the market risk premium used is the one empirically proved by Mehra & Prescott (1985) – 6 percent. The beta used is derived through regressing Academedia's monthly share prices over a period of six years to the MSCI Europe Index, which yields a beta of 1.02.