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where:

- x = Annual contribution rate
- S = Pension stock at retirement
- $W_0$  = Annual income in year 0
- g = Salary increase
- r = Return to capital
- n = Years of accumulation
- i = A particular year

In the equation, the only unknown parameter is the contribution rate, and all other input factors are assumed. As in Chapter 9, the calculations will use return to capital rates of 3, 4 and 5 percent. Also, the same sizes are used concerning starting salary and salary increases. In addition, it will provide the necessary contribution rate under a worst-case scenario of zero return over the 40-year accumulation period. For male employees, an average return to capital of 3 percent yields an average annual contribution rate of 8,87 percent, whilst the same scenario for a female employee implies a contribution rate of 8,12 percent. Increasing the return to capital to an average of 4 percent yields contribution rates of 8,69 percent for males and 7,96 for females. A further one-percentage point increase in the return implies that the contribution rate for males is reduced to 6,97 and 6,38 for females. Following the framework for contributions laid down in both Chapter 6.1.1, we can see that return to capital levels of 3 and 4 percent for males and 3 percent for females produce contribution rates that are not tax incentivized. Without going into details on the exact consequences of this, certain net effects must thus be expected.

If we take a look at the worst-case scenario of a zero percent average return to capital, the contribution necessary to produce the same annual retirement income as the defined-benefit design is 15,53 percent for males and 14,22 percent for females. This lays further outside the tax incentivized upper bound of 8 percent



and would thus produce even larger net effects than returns to capital of for instance 3 and 4 percent. As mentioned in Chapter 9.1 on cost structures, the plan benefactor is to account for administration costs and management fees charged on defined-contribution pensions. The illustration below summarizes the calculations presented above and displays the annual costs for the employer of providing its employees with a defined-contribution pension plan, with and without the costs levied by the service provider:

**6. Average annual costs to plan sponsors of defined-contribution plans, measured as percentage of annual salary**

	Male		Female	
	w/o additional costs	w/ additional costs	w/o additional costs	w/ additional costs
<b>0 % ROI</b>	15.53 %	16.62 %	14.22 %	15.31 %
<b>3 % ROI</b>	8.86 %	9.95 %	8.12 %	9.21 %
<b>4 % ROI</b>	8.69 %	9.78 %	7.96 %	9.05 %
<b>5 % ROI</b>	6.97 %	8.06 %	6.38 %	7.47 %

ROI: Return on investment

w/: With

w/o: Without

This discussion has concluded that given certain average returns to capital, a certain average inflation adjusted annual salary increase and given salary levels, a certain average percentage to accumulate annually is produced. This percentage would be a concrete decision-making parameter for our illustrational organization. As we can see from illustration 6, there are uncertainties connected to the return to capital scenarios the thesis has based its calculations upon. If we now turn to the employees in the organization, they are likely to be concerned with the discrepancies based upon return to capital. We can then turn the aforementioned section on its head and look at what is a good pension plan for the employees.

*10.1.2 The employees*

It is easy to jump to the conclusion that a defined-benefit pension plan is by far the most beneficial for the employees. The calculations in the previous section have proven that this is not necessarily the case. Given an average return to capital

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over the accumulation period of 7 percent, a savings rate of 9 percent would result in an annual retirement income exceeding the income under a defined-benefit regime as discussed in a previous chapter. Even with a perfect match between returns to capital and contribution rates, there is another element worth dwelling by. This is in essence a question of dependence. Whilst the employing organization indirectly provides the individuals with an income post retirement, they are directly linked to the income in the working years leading up to retirement. As such, it is in the employees' best interest that an employer operating in a competitive market is indeed a competitive actor. Uncertainties in long-term planning may hamper progression and diminish a beneficial environment for innovation.

When operating in a market for students as well as for employees, competitiveness may suffer, as the academic quality would eventually recede. Reduced competitiveness may in turn lead to lower volumes of students admitted, thus negatively influencing income levels. Increasing tuition fees could of course counteract such events, but we must assume that the demand is sensitive to price, at least at a given threshold, and therefore this is not a viable repetitive option in the long term. A good pension design for employees may therefore just as well be a defined-contribution plan where the annual contributions are sufficiently high, whilst at the same time the employing organization enjoys full information concerning their annual financial responsibilities concerning retirement income. Likewise, we can see that there are benefits of both models, dependent for instance on the assumptions at the basis of the calculations. A following section will elaborate on merging different benefits in what is themed as *hybrid pension design*, after the thesis has addressed challenges in making a shift from a defined-benefit to a defined-contribution design.

## ***10.2 Making the shift***

There are several ways in which a change from one pension plan with a defined-benefit design into another with a defined-contribution design can take place. One way is to allow for a gliding transitioning, where existing plans are maintained, whilst all new employees are included in the defined-contribution arrangement.

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This allows for a natural crowding out of an existing pension design, but at the same time it has certain drawbacks. An obvious one is that it is slow. Assuming a 40-year accumulation period, one can conceive of 39 years passing before the defined-benefit design is in effect replaced. The second is a possible reduced cohesion amongst employees. Changes in the parameters feeding into the calculations on future retirement income affect the two designs in different ways. If two groups in the same organization are affected in different ways, they will both claim the right to sufficient compensation. If the defined-contribution rates are lower than what is expected to produce an identical lifelong annuity at retirement, salary increases for this one group may be required and demanded. Thereby, you risk producing two different salary trajectories for employees in the same organization and most likely also members of the same trade union. The employers can couple the closing of new entries into the defined-benefit regime with a voluntary shift for employees already included in such a design. Such a transition mechanisms would likely produce a divide between generations, or groups of cohorts, as employees closer to retirement would most likely prefer a continuation of the defined-benefit regime, whilst younger staff could very well prefer the defined-contribution alternative. If the incentives for changing are thoroughly devised and effectuated, then such a system could very well be a good common ground for employers and employees alike. It is important to note that with voluntary change, the employees need to perceive the pension stock at retirement as sufficient. This, as their option is a lifelong annuity of a pre-defined size. A third option is to close the defined-benefit plans, and move all employees into a defined-contribution design. Here, the accumulated rights to a defined-benefit would have to be calculated into a first-time deposit in a defined-contribution plan. The main challenge here is that

### ***10.3 The hybrids: Pension products of the future?***

The Norwegian market for occupational pensions and associated financial products is rather young, and with large potential for innovation and development going forward. This may well open up for an internationalization of the Norwegian product scope compared to the situation of today. In their report of 2008, the Bank Law Commission opens up for additional pension plan designs,

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aimed at bridging some of the gaps between the two designs and possibly improving the situation for all participants (Hippe 2009). The recent publication from the same Commission has panned out the recommended direction in which this bridging should happen. Implications from the new proposed scope are that the capital requirements for life insurance companies are reduced, and tailoring of the products is possible to satisfy a larger spectrum of interests (Banklovkommisjonen 2012). These may be the needs of the employers, or those of the employees. Nevertheless, such inputs are potential game-changers, as more emphasis on a widened product spectrum brings more possibilities to choose from.

We can imagine that a pension plan with the cost regularity of the defined-contribution plan coupled with the employers guaranteeing a pension level, thereby maintaining the risks instead of shifting it to the employees, is a best-case world. This would perhaps also in turn be the best solution for both plan benefactors and plan beneficiaries. Is such a reality feasible? What kind of design would then be needed? The designs that “steal with pride” from the stylized pension plan designs are referred to as hybrid designs. They are essentially one design induced with some, or many, of the characteristics of the other design (McGill et al. 2005). These hybrid plans can take on many characteristics, and this thesis will restrict itself to mentioning two existing designs available for occupational pensions. It is important to notice that these hybrid designs are taken from the US occupational pension market, a market at the vanguard of private pension arrangements for decades. As such, underlying incentives may not coincide with the systemic and taxation mechanisms in Norway, or the Norwegian system may not have matured to the stages of its American equal. For such reasons, the designs below should be viewed as conceptual frameworks that could be adapted to the Norwegian tax regime, pension system and other influencing elements.

### *10.3.1 Cash Balance Plans*

Cash balance plans are examples of hybrid solutions to the division of risk connected to retirement income. In essence it is a defined-benefit plan, in that it promises a certain size at the end of the accumulation period (McGill et al. 2005).

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Unlike the traditional defined-benefit plans, however, it does not promise a certain annuity paid throughout the retirement period. Instead, it promises a lump sum accumulated at the end of the period, that in turn will be paid out like a defined-contribution account balance would be. The accumulation happens through a defined allocation fraction, a pay credit often represented as a percentage of annual salary and an interest rate component. This pay credit may increase with tenure, as a manner of rewarding loyalty to the company, or it may remain stable throughout the accumulation period. The interest credit component can be a fixed interest rate percentage or it can be connected to an index like 1-year Government bonds or another market standard. The interest credit is not a return to capital, but an indexation tool. This implies that it is not directly connected to the accumulated claims and as such the risk is placed with the employer, not the employee (McGill et al. 2005, 311).

The cash balance plan gives the employing organization the predictability in accumulation as is would experience under the pure defined-contribution design. The common formula for accumulating retirement income under a cash benefit plan is the beginning-of-year (BOY) account balance at time  $t_0$ , plus the annual pay credit taking the form of the fixed percentage contributed and the interest credit accrued over the year. This yields an end-of-year (EOY) account balance, which is in turn the BOY account balance in year  $t_1$ . This formula is then reproduced until  $t_{\text{retirement}}$  (McGill et al. 2005, 310-311). Whilst the employer bears the risk of increases in salary levels and interest rate returns below the benchmark, the employee bears the risk of the annual payments being lower than under a defined-benefit plan given higher life expectancies. In short then, under cash balance plans, pension is accumulated annually. As we will see, this is a different logic than the second hybrid option.

### *10.3.2 Pension Equity Plans*

Similar to cash balance plans, pension equity plans are in essence defined-benefit plans with characteristics form defined-contribution schemes. It is similar to the cash balance plan in that it aims for a defined account balance at the point of retirement instead of an annuity for life. What is the main difference however,

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stems from a certain disproportionate accumulation for individuals entering and producing a higher salary trajectory for themselves than others.

The pension equity plan accumulates funds through a certain percentage of final average pay into a lump sum benefit received at retirement. Similar to the cash balance plan, a percentage of the at all times final average salary is cumulatively allocated to the account balance. Unlike the cash balance plans, there are no interest components added to the pension accumulation. This is due to the fact that the indexation takes place through increases in final average salary, whilst the cash balance plan is indexed through interest rates. This difference implies that the higher rewarded employees achieve a higher level of lump sum accumulation at time of retirement (McGill et al. 2005, 316). Contrary then to the cash balance plan, the pension equity plans annually accumulate a *percentage* that is in turn applied to a final salary.

## 11 Conclusions

### *11.1 A general summary*

When discussing the best pension option possible for the two parties, it is easy to conclude that for the employers a defined-contribution pension plan is the best. It is the best because of its superiority concerning stable and predictable payments to a savings arrangement and shifts the risk entirely over on the employees. As such, one could argue that for the employees the situation is the direct opposite: Defined-benefit plans are superior in that they guarantee a certain fraction of final year's salary as an annual retirement income. Through a defined-benefit pension plan, the risk is shifted onto the employers, but it is worthwhile to provide certain arguments providing a more nuanced picture.

This thesis has attempted to illuminate the question of how employing organizations are affected by the design of their employees' pension plan, and how this can affect their rationality in long-term financial planning. What it has shown is that the defined-benefit design inherits certain characteristics that produce uncertainties. Macro-economic developments and longevity risks imply that the employer needs to funnel more and more funds into the schemes, funds that are outside the predicted costs based on the service provider's calculations. This proves the point that defined-benefit pensions are the "problem", to which there is a solution; a defined-contribution design.

With full information on current and future allocations, long-term planning is facilitated in a much more transparent manner, leaving the employing organization better off. In addition, the employees also benefit from a stable employer, indicating that a defined-contribution design is beneficial for them as well. Whether it is beneficial for them is anchored in the employees' question over "what will I receive in retirement income?" The answer stems from a simple trade-off on the behalf of the plan sponsor. The calculations produced in this thesis imply that the same annual retirement income can be produced without excessively large annual contributions. Given a positive return to capital over the accumulation period, this thesis will conclude that the rationality gained is worth generous contributions. This spurs a new theme – issues of transition. How are

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the employees to be transferred from one scheme, which they may prefer, into another? Several options present themselves, again with different sound to them according to which side of the table one sits at. For the employers, it appears that the best solution is to combine coercion with incentives. Mandatory closure of all defined-benefit plans, re-calculation of accumulated claims into an initial deposit and contribution rates expecting low returns to capital. Thus, excess returns are made more likely and the lifelong annuity more larger.

In most employment relationships there exist a dependency and most often it is asymmetric in that employees depend on employers for income. As such, one can argue, “what is good for business is good for the employees”. This may especially be the case when the competition for high-quality staff is made where all actors in the market provide the same solutions. Stable and certain costs in turn then offer the employees a certain income in their working years and then a defined-contribution pension plan is the prevailing option. It is not the intention of this thesis to conclude on such a question, but certainly suggest that it is of high interest for research going forwards.

Trade unions in Norway are frequently arguing the superiority of defined-benefit plans. Perhaps they are indeed not superior, since retirement income depends on a number of variables. The answer is then one I, as a novice in the field, frequently provide when asked to comment on which pension plan design is the best: “It depends”. It certainly depends, given the recommendations recently presented by the Banking Law Commission. This potential widening of the product scope may prove very beneficial in the Norwegian pension market, and provide more tailoring to needs than the market allows for at the moment.

### ***11.2 Future research***

In working with the thesis, several interesting questions have been produced. Given the scope of a master’s thesis, they cannot be pursued to the extent that interesting discussions are produced. A highly relevant question for the future is whether opening up for hybrid designs, as suggested by the Banking Law Commission, are likely to coexist alongside the two existent alternatives, or



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whether it is likely to crowd out defined-benefit plans. This latter has been the prevailing view amongst experts portrayed in the media since the release of the report from the Commission. The analysis in this thesis suggests that there is no universal answer to questions of best practice in pension system design. It depends. As such, what factors could be likely to be the determining ones in the predicted crowding out? In a similar vein, assuming that product innovation will manifest itself in the private sector first, what will happen to the Norwegian Public Service Pension Fund? It is organized as a pure defined-benefit provider and preserving such a product scope may create new, or further divides between individuals employed in public and private sectors. This would arguably be counteracting the underlying logics behind the reform on occupational pensions from 2005.

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## Preliminary Thesis Report

# Occupational pensions and their implications for rational decision- making:

– A case study of the Norwegian Business School –

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Program:  
Master of Science in Political Economy

Supervisor:  
Kåre Hagen

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## Summary

Pension is a central aspect of a modern welfare state and affects individuals and organizations both at the microeconomic and aggregate levels. The Norwegian pension regime is a complex one, but in essence it comprises of a nationally supplied, an employer supplied and a personal savings component. This preliminary thesis report outlines the central aspects of my coming thesis, whose objective is to investigate the employer supplied element of the pension mix. It will use the Norwegian Business School as a case study and analyze how and to what extent a defined benefit retirement plan affects the rationality of the plan sponsor in its long term economic planning. More specifically, the thesis will seek to answer the question *“how is the Norwegian Business School affected by pension system design and how does the co-existence of current retirement schemes affect the organization’s rationality in long-term economic planning?”* In its analysis, the thesis will use ideal type individuals seeking to display different effects from exogenous factors on the decision-making rationality of the organization.

This proposal provides the reader with a preliminary plan for the intended progression in working with the thesis theme and problem definition, as well as some initial thoughts on possible interesting discussions raised through investigating a co-existence of pension schemes as the one present at the Norwegian Business School.

## **Introduction to the thesis' topic**

Income after retirement from the workforce, or pension, is an important pillar in a modern welfare state. It's main objective is to secure an income after exiting the working force and thereby bridging the income gap produced by losing income from paid work. In Norway, pensions are embedded in a system often presented as a pyramid consisting of three levels (Norwegian Public Service Pension Fund 2012; The Ministry of Labor 2011). The first of the three is a public retirement pension provided for by the state (Folketrygden), the second level – occupational pensions, are connected to an employer-employee relationship and the top level concerns the individuals' personal savings for retirement. The pyramid can also be perceived to consist of a macro level (that of the state) and a micro-level (that of the employing organizations and the individuals). Pension is a complex topic and one that affects all members of society, whether they be included or, for some reason or the other, excluded from the workforce. Ever since the National Insurance Scheme was introduced in 1967, the Norwegian landscape for pensions has been in more or less continuous evolution (Dølvik et al. 2007), adding to the complications surrounding themes on pensions in Norway. Pensions provision in Norway is highly regulated by law. Even so, it affects organizations and individuals differently according to their employed sector, tenure, age and profession. This thesis proposal will touch upon some specifics on pension legislation, obligations, rights and requirements, but the main thrust on these elements will be provided in the final thesis.

All three levels of the pension pyramid can be operationalized and analyzed through a number of interesting problem definitions. Extensive work has been done both on analyzing the system, its possible adverse effects and implications for Norwegian individuals. Much work has also been performed on the impact of the public retirement pension system in later years, especially since the passing of the legislation on new retirement pension in 2009 coming into effect January 1<sup>st</sup> 2011. Analyzing the Norwegian pension system is a daunting task for anyone, particularly daunting perhaps, for a student enrolled in a Master of Science program. In order to produce a relevant thesis and interesting and well-founded discussions and conclusions, the scope needs to be reduced dramatically. For that very reason, this coming thesis will occupy itself with the second level of the so-

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called pyramid, and it will use a case study to investigate a current occupational pension regime, and its effects for the employing organization. It will look at the Norwegian Business School and investigate the implications of a defined benefit pension plan from two separate service providers, one public and one private actor. The purpose of the thesis is to investigate the impact on this co-existent pension regime on rationality in long-term financial planning and decision-making for the organization. In doing so, a thorough description of the pension regime at the Norwegian Business School is needed and the following section will provide a brief introduction to this, whilst the final thesis will allocate substantial time and provide extensive details on this element, as it will be crucial for the final product.

Even though the focus of this thesis will be the impact from different retirement schemes on the rationality of the organization, it will be hard to completely disregard impact on the individuals employed at the Norwegian Business School. Even though they are all provided a defined at 66 percent post-retirement, elaboration on the interplay with the public retirement pension system (level one of the pension pyramid) is deemed necessary in order to further foster a beneficial discussion. If there are indeed discrepancies between public and private provision concerning the interplay with the national retirement pension, these may prove interesting in a discussion on whether the Norwegian Business School could and should transfer all employees to a privately supplied retirement plan or indeed if a transition to a defined contributions scheme should be undertaken. This latter arguably increases the certainty in decision-making and costs for the Norwegian Business School, but may prove hard to implement when the organization competes with other publicly funded and run learning institutions over academic employees.

### *The importance of pensions*

Pensions as a concept are arguably one of the most central service provisions in a modern welfare state. Consumption smoothing when exiting the workforce is key in order to secure a worthy retirement and maintain living standards according to previous years. The debate on all levels of the pension pyramid rages in the media

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and remains a hot topic in political debates as well as vital to most members of society. The motivation for choosing this topic is the fact that pensions are a central topic in political economy, its position at the centre of the welfare state and its importance to participants in the workforce allowing them to secure a good income in their late years. Through past experience I have been able to work on pension related themes both through academic work during my studies and also engagement at Storebrand Life Insurance.

### ***The case: The Norwegian Business School***

The purpose of this paper is to investigate the occupational pension regime at the Norwegian Business School, its effects for the employees and the plan sponsor (the employing organization). The case is of interest for several reasons. The first reason I would like to highlight is the presence of two groups of employees. The working staff is separated into two groups, academic staff and administrative personnel. These two groups are included in different pension schemes, presenting different effects for the Norwegian Business School as the plan sponsor in all cases. The academic staff is included in a defined benefit pension scheme with a public service provider; the Norwegian Public Service Pension Fund, while the administrative staff is included in a defined benefit scheme with a private provider; Storebrand Life Insurance. These two service providers display different behavior with respect to factor adjustments in building the defined benefit pension, and this is a point that will be central to the thesis.

The second reason is the fact that the Norwegian Business School is a private learning institution organized as a foundation, thereby excluding the same profit motives witnessed in organizations in the private sector generally. The competition landscape is also different, adding to the interest of the organization as a case. As a university institution, it competes for academic labor with publicly funded and run institutions where the Norwegian Public Service Pension Fund reigns supreme in provision of pensions. Even if the retirement income of 66 percent of “final” annual salary (*final* is placed in quotation marks as salary in the final employed year are adjusted for downwards sloping income trends in the final working years), there are other benefits connected to membership in the

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Norwegian Public Service Pension Fund, for instance a low interest rate on housing mortgages. Much time will not be devoted to this latter point in the final thesis, but it is still worth mentioning. A main point concerning the pension system design and its impact on the Norwegian Business School is that when life expectancy adjustments go up and interest rates go down, the costs of funding a defined benefit retirement scheme goes up. This is just the development that has been witnessed in Norway the past years. This undermines the incentives for long term financial planning. This will be a key element of my thesis, as it is arguably the foundation for the problem definition and the reason for choosing the Norwegian Business School as a case.

### **The context of occupational pensions in Norway**

The market based occupational pension schemes in Norway have grown rapidly and become one of the most decentralized and individualized in Europe the past 25 years (Dølvik et al. 2007). Occupational pensions in Norway have experienced a surge in quantity the past years, much due to the passing of the Law on Mandatory Occupational Pensions (Lov om Obligatorisk Tjenestepensjon, OTP) in 2005. Since the passing of this legislation, occupational pension schemes have really grown in magnitude and size, and it appears that defined contribution plans are in the process of crowding out the defined benefit arrangements that have made up the bulk of occupational pensions even after the passing of legislation on defined contribution retirement plans (Lov om Innskuddspensjon, LOI) in 2001 (Hippe et al. 2005).

The legislation on mandatory occupational pensions states that an employing organization with minimum two employees with working hours constituting more than 75 per cent of a full time employment and where the minimum employment is two 100 per cent positions and employees hold a minimum of 20 per cent positions (Lov om obligatorisk tjenestepensjon 2006). In light of life expectancies affecting the public retirement pension, this legislation was set in place to make sure post-retirement income will be satisfactory in the future through forcing the employers to partake in the funding of pensions. The law makes sure that everyone entitled to a pension gets it, as long as they fulfill certain set definitions.

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What kind of retirement scheme the employees are enrolled in is determined and financed by the employer (Halvorsen and Stjernø 2008), and is in turn regulated by separate laws. The law on occupational pensions covers defined benefit schemes as well as defined contribution schemes with insurance elements (Lov om foretakspensjon 2001), while the law on defined contribution pensions covers this type of retirement plan (Lov om innskuddspensjon i arbeidsforhold 2001). With respect to defined benefit schemes, pensions provided by the Norwegian Public Service Pension Fund are further regulated (Lov om Statens pensjonskasse 1949). As the Norwegian Business School operates with defined benefit schemes only, the covering legislation will have to be panned out in the final thesis, but for this proposal it suffices to mention it only briefly.

Legislation covering defined contribution schemes will also be included in the final thesis, due to the fact that the management at the Norwegian Business School has expressed a desire to transfer to such a retirement plan, at least with respect to its administrative staff. This will follow from the discussion section of the final thesis and perhaps, and hopefully, also manifest itself through interviews with the accounting and finance department at the Norwegian Business School. The latest major reform on pensions in Norway was passing the legislation on mandatory occupational pensions in 2005. This reform is interesting in conjunction with the prior major reform, the law on defined contributions pensions from 2001. Ever since 2001, there has been an increase in defined contribution retirement schemes, but as mentioned earlier, the major upswing for defined contribution came with the mandatory occupational pension from 2005. The reasons for the increase in defined contribution plans at the expense of its defined benefits counterpart will be elaborated upon later in this proposal, and also in the chapter of the final thesis covering pensions in Norway in general.

Several institutions, including the Norwegian Business School, have a pension regime that can be labeled as co-existing. Other institutions have a co-existence of defined benefit and defined contributions. This can especially be the case for organizations with a fairly large age spread in its working force. Co-existence may well prove to be a source of conflict between the employers and the employees, but also amongst employees. This point does perhaps not lie at the core of the research question, but in order to produce an interesting and fruitful discussion

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tensions at the individual level also needs to be addressed. Occupational pension systems in Norway can take on the form of defined benefit or defined contribution, and the difference between the two forms can be perceived in terms of risk. Risk, both with respect to the plan beneficiary (the employee) and the plan benefactor or plan sponsor (the employer). With a defined contributions scheme, the uncertainty for the plan sponsor disappears. An agreed-upon percentage of the employees' annual salary is placed into pension account and accumulates through additional contributions and returns on investment. The uncertainty for the employer is thereby heavily reduced. This risk can be perceived to be transposed to the employees. Their income after retirement is heavily influenced by returns to investments and thereby volatility of different investment vehicles. With defined benefit schemes, however, the situation is turned around. With such pension plans, the employees are provided a certain percentage of their salary level at exit from the workforce as an annual pension income. The employees know what they can expect to receive as occupational pension, regardless of the development in international markets for investment products. The uncertainty, and thereby risk, connected to retirement savings is thereby transferred to the plan sponsor (Barr 2004).

The defined benefit for the employees is sometimes to be provided for a certain time period, or as in the case at the Norwegian Business School, for life. This is a good time to introduce a crucial point with respect to pensions: We do not know for how long we are going to live. Adding to this, the life length expectations in Norway show a consistent trend in that we tend to live longer than previous generations. Life expectations affect the pension allocations from the Norwegian Business School in that the organization has to provide for its employees for longer periods after their retirement. This indicates that the contributions per employee increases and costs for the organization goes up. As both academic and administrative staff at the Norwegian Business School is included in defined benefit schemes, life expectancy adjustments affect costs through both academic and administrative staffing alike. The sponsoring organization, the Norwegian Business School, has to bear the costs of a professor being expected to live an additional year through funding one more year of his/her retirement income. This becomes interesting in light of an increase in life expectancy over the past 25 years of six years for men and three years for women (Statistics Norway 2011). A

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proven challenge connected to this manifests itself through the nature of the service provider. Storebrand Life Insurance, as a private actor, has shown, reported and claimed increased premiums through rapid adjustments and as such provided a more steady distribution of costs to the plan sponsor. The Norwegian Public Service Pension Fund on the other hand has not displayed the same agility in adjustment and provides a challenge through higher “lump sum” demands. Needless to say, an additional pension cost of NOK 20 million for a hypothetical plan sponsor provides challenges if the same plan sponsor runs its operations with a NOK 25 million surplus intended to fund further research.

### **Input from theory**

Rational choice is a much-used input for modeling decision-making in political economy, microeconomics and macroeconomics. In its simplest form, the model is based upon a number of assumptions, including a well-behaved utility function, rational behavior on the account of the individuals and organizations involved, absenteeism of uncertainty and competitive markets in supply and demand. As made evident, this paper will elaborate on pension in general and more specific, on the pension regime within a chosen case: The Norwegian Business School. When discussing old age pensions, the assumption of certainty becomes one open for scrutiny. In a world with perfect certainty about the future, insurance becomes unnecessary and participants in the workforce provide for their own retirement through voluntary savings (Barr 2004). Re-introducing the fact that we do not know for how long we are going to live, lifestyle and genes may determine that we live to see 100, but lethal accidents and unforeseen events may also determine that we are cut short at 50 years. When discussing pension schemes, the aforementioned uncertainty is important at the individual level, but it also presents challenges at an aggregate level. Pension reforms are designed to produce a certain macroeconomic (equilibrium) outcome, but the legislation and reforms put in place also needs to be beneficial at the level of the individual and the organizations employing these individuals. Pensions is a case of consumption smoothing (Barr 2004), and a simple Fisher model of rational choice may not be fully adequate to model best behavior.



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Rationality in decision-making is a key principle for institutions like the Norwegian Business School. As a foundation, its profit motive is not as clear-cut as for a regular profit maximizing firm, but positive profits provide funding for future research, in itself a worthy cause. In addition, research funding is arguably a factor in attracting academic staff to the institution, benefitting the institution as a whole, the current academic environment and the students. The rationality of the Norwegian Business School is arguably heavily impacted by unforeseen additional costs, and pensions represent one source of such unexpected costs. Modeling the decision-making structure and its influencing factors is a daunting task, and not one attempted in the thesis for which this proposal constitutes a draft.

## **Research framework**

### ***Research question***

In order to operationalize and identify the interesting traits of aspects surrounding pension, research questions are necessary in order to provide clear guidelines for the subsequent analysis. The main research question of this thesis will be “*how is the Norwegian Business School affected by pension system design and how does the co-existence of current retirement schemes affect the organization’s rationality in long-term economic planning?*” In the course of the thesis, each chapter will address partial research questions providing clarity on the main research question being presented. Formulating the partial research questions is not attempted at this point in time as this requires thorough thought and consideration. A master thesis is a substantial amount of work and written pages, but there is nevertheless no room for elements deviating from the core of the problem definition. Keeping the final product closely connected to the research question is one of the key challenges outlined in more detail at the end of this proposal.

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*Research method and design*

This coming thesis will occupy itself with future events and future implications from pension schemes with different service providers. As such, empirical testing will not be available and therefore neither beneficial in its analysis. As a case study, it serves the purpose of detail, but perhaps also generalization, as other organizations may well be in the same situation as the Norwegian Business School with respect to pension regimes. In order to develop a beneficial framework for analysis, the thesis has chosen to use ideal type individuals as its method. This provides the benefit of setting scenarios and estimating the impact on the Norwegian Business School in terms of impact on rationality in planning processes. It does not provide the possibility of statistically testing a hypothesis at a given significance level, but at the same time, this is not the intention of the thesis and does not constitute any concerns whatsoever.

The thesis will develop two main types of individuals, one for the academic staff and one for the administrative personnel at the Norwegian Business School. This is done to capture the differences in service provision between the two retirement schemes provided for the employees. The analytical framework will further separate the ideal types into male and female, as these have different salary projections and life expectancy rates and developments and thereby captures any differences among sexes within and across types of employment. In order to capture development over time, the thesis will place these individuals in different age groups with respect to retirement: Retirement -10, -20 and -30 years, providing fictitious individuals of 57, 47 and 37 years respectively. This will provide variation between academic versus administrative staff and male and female employees concerning salary paths and the influence of tenure effects on the two pension savings schemes. Life expectancy adjustments affect individuals on defined benefit retirement plans with both public and private service providers. The effects are conceived to have different implications for the Norwegian Business School according to service provider. An upward adjustment for a professor is likely to be less continuous than for an administrative assistant. This is due to the time lag in premium adjustments from the Norwegian Public Service Pension Fund compared to adjustments from Storebrand Life Insurance. This aspect will be revealed through interviews with resource personnel from both

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service providers and the Department for Accounts and Finance at the Norwegian Business School.

### *Data*

In order to gain full overview over the defined benefit retirement schemes with both the Norwegian Public Service Pension Fund and Storebrand, I will need to conduct interviews and attend briefings with resource personnel with both these actors. I have already initiated contact with Stina Vestby with the Norwegian Public Service Pension Fund and she has agreed to provide input on effects from interest levels and life expectancy adjustments. Formal contact has yet to be established with resources at Storebrand Life Insurance, and this will have to be done at an early stage of the project. In addition, and given the particular tailoring of pension plans according to customer, the thesis will have to rely on sources from the Accounts and Finance department at the Norwegian Business School in order to gain an accurate understanding of the terms and conditions affecting the organization in terms of pension. If this information for some reason or another may not be available, best estimate techniques need to be applied in order to forecast differences between the two types of defined benefit schemes.

Furthermore, the thesis will have to rely on life expectancy data for the ideal type individuals from Statistics Norway and interest level expectations and projections from Norges Bank. The former data is easily and publicly available and the data collection as such should not pose too big challenges. The interest levels are impossible to predict, although some guiding can be read from the interest rate publication by Norges Bank and analysis performed by investment banks and other financial institutions. In the short term, interest level guiding and expectations made do arguably represent little spread compared to the actual levels witnessed in retrospect. On the longer term, this is not feasible given the multi-factor dependence of the interest rate on several indicators, global and domestic. For this reason, the thesis will conduct best case, worst case and average interest levels from the past 20 years and use all three interest rate levels in the analysis for the ideal type individuals. This is perceived to provide a

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nuanced picture of how interest rates affect the pension costs for the Norwegian Business School towards their employees' defined benefit retirement plans.

### **Preliminary thesis outline**

The final thesis will consist of three main sections. The first section will consist of an introduction to the thesis in general, the pension regime in Norway and particular focus will be attributed to the two pension schemes covering the academic and administrative employees at the Norwegian Business School. This first section will also include chapters on the problem definition, the research question, chosen method and the data needed.

Section two will comprise of the analysis on effects from the different ideal types, and conclusions on effects from interest rate levels and life expectancy adjustments. In addition, this section will include perhaps the most important and interesting part of the thesis; the discussion chapter. The third section will provide the reader with a summary of the research contribution from the thesis and perspectives on further research on the topic of pensions in general and occupational pensions in particular.

### **Contributions of the thesis**

#### ***Overall objectives***

The overall objective of this thesis is to produce insight into the possible adverse effects for an organization included in defined benefit schemes with public and private providers. It will elaborate on the impact from costs connected to pension funding for employees influence rationality on long-term decision-making for an organization, and also discuss consequences of this impact. It will provide insight into, and discuss, how a change from a public service provider, the Norwegian Public Service Pension Fund, to a private service provider may affect the attractiveness of the Norwegian Business School in the competition for academic labor compared to Norwegian public institutions like universities, university colleges and business schools in which it is in competition with today. By shedding light on the co-existence between publicly and privately managed

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pension schemes it can also provide general relevance and applicability to other organizations with a similar split with respect to pension schemes. Public debates over pensions are to date most concerned with the impact for employees and apart from the dichotomy defined benefit versus defined contributions, less concerned with impact on the employer side. Pensions are complex, also in Norway, and I view all contributions intended to, and successful in, improving knowledge of effects and implications beneficial to employers and employees alike.

### *Interesting possible discussions connected to the thesis*

One of the key themes that will have to be included in the thesis is “what constitutes a good pension plan, or a good arrangement?” This can be seen from two angles, that of the plan benefactor and that of the plan beneficiary. The main perspective of the thesis will be from the position of the plan benefactor, the Norwegian Business School. This theme also brings about the question of loyalty from the workforce versus predictable costs for the organization, an interesting theme indeed and one that is most likely to receive attention in the final thesis. Also, questions of interactions between organizational objectives and implications from pension regime are ones of high interest to this author and the thesis. If defined benefit plans are much less beneficial in terms of decision-making and planning rationality, why is it then kept around and not replaced with a defined contribution plan offering precisely such a certainty in costs? Interesting question indeed, and not one easily concluded upon.

### **Outline for progression**

Planning ahead on a project like this is difficult and I suspect the timetable needs to be adjusted according to feedback on this proposal and the general progression of the various elements constituting the final thesis. Even still, I believe it is beneficial to provide the supervisor with my initial thoughts surrounding the progression of the thesis. Also, the progression needs to be adjusted according to my supervisor’s timetable given his new assignment and the table below is in essence more of a thought experiment than anything set in stone with respect to progression.

<b>January</b>	<ul style="list-style-type: none"> <li>• Establish contact and determine first interaction with resource personnel intended to provide a complete picture of the two pension schemes.</li> <li>• Collect information on internal work on the pension theme from the Norwegian Business School management.</li> </ul>
<b>February</b>	<ul style="list-style-type: none"> <li>• Complete chapter on the two pension schemes.</li> <li>• Gather necessary data, and create ideal type individuals, interest levels and life expectancy data.</li> <li>• Complete chapter on research methodology and problem definition.</li> </ul>
<b>March</b>	<ul style="list-style-type: none"> <li>• Analyze the implications for the organization by calculating the different cost levels at different interest rate and life expectancy levels.</li> <li>• Complete analysis section.</li> </ul>
<b>April</b>	<ul style="list-style-type: none"> <li>• Write discussion section based upon the analysis.</li> </ul>
<b>May</b>	<ul style="list-style-type: none"> <li>• Primo: complete analysis and discussion sections.</li> <li>• Ultimo: Finish first draft of complete thesis.</li> </ul>
<b>June</b>	<ul style="list-style-type: none"> <li>• Medio: finish review of first draft</li> <li>• Ultimo: produce second draft</li> <li>• Make arrangements for printing final thesis.</li> </ul>
<b>July</b>	<ul style="list-style-type: none"> <li>• Complete thesis by medio July.</li> </ul>
<b>August</b>	<ul style="list-style-type: none"> <li>• Send thesis to print according to arrangements.</li> </ul>
<b>September</b>	<ul style="list-style-type: none"> <li>• Hand in final printed thesis.</li> </ul>

### **Challenges in producing the final thesis**

One key challenge that has been outlined in our supervisor sessions is to allow for adequate time in finalizing the thesis. In order to allow for this, the progression needs to be continuous and also the production of first and second drafts needs to be timely. These perspectives are sought through collaboration with the thesis supervisor. Another key challenge is to produce adequate ideal type individuals. Thorough research needs to go into this before an analysis is to take place. A framework for dialogue with the Norwegian Public Service Pension Fund, the

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Department for Accounts and Finance at the Norwegian Business School and Storebrand Life Insurance is needed in order to be able to produce this. As mentioned earlier, an important aspect in producing an interesting and concise thesis is to not deviate from the problem definition and get caught up in other interesting aspects not entirely relevant to the research being conducted.

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