University of Guelph Pension Plans

Annual Report

At September 30, 2011
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A: Introduction

The report is presented to assist all pension plan stakeholders in understanding important components including the funded status of the University of Guelph’s pension plans (the Plans). The report provides an overview of the Plans including basic pension plan information, a summary of Plan benefits, and financial position information as at September 30, 2011 (pension plan fiscal year end). The information contained in this report represents a consolidation of summary information for all three pension plans: the Non-Professional Pension Plan, Retirement Pension Plan, and the Professional Pension Plan. Further benefit and financial information links are listed in various sections throughout this report.

Generally, the analytical, financial and legislative world of pension plans is very complex and this communication is not intended to be an exhaustive presentation of pension plans in Ontario nor is it intended to disclose all legislative or actuarial details associated with pension plans.
Also this report is not intended to provide advice to individuals on pension or retirement planning. Individual circumstances will determine the impact your pension plan may have on your retirement planning. Advice from a professional on your personal circumstances is always advisable.

B: Background

B.1 Pension Plan Basic Overview

B.1.1 Glossary of Terms

Understanding registered pension plans generally and the terms used to describe the analytical and financial aspects can be quite complex. As such, a glossary of terms has been created and is located in Appendix A for reference purposes. The terms defined have been highlighted as they first appear in the document.

B.1.2 Pension Legislation

Registered pension plans in Canada must comply with applicable minimum pension benefit standards legislation as well as satisfy requirements of the Income Tax Act. Most pension plans in Ontario are subject to the requirements of the Ontario Pension Benefits Act (PBA) which imposes standards on employers regarding eligibility for membership, funding, disclosure of information to plan members, investment of plan assets, etc. For pension plans registered in
Ontario, such as the University Plans, the Financial Services Commission of Ontario (FSCO) is responsible for ensuring that the requirements of the PBA are followed.

### B.1.3 Types of Plans

Pension plans can vary greatly in terms of their structure and the benefits they provide. Fundamentally, there are two types of pension plans - defined benefit and defined contribution (or money purchase) plans. Some employers offer a combination of the two types of plans - known as "hybrid" plans.

**Defined Benefit (DB) Pension Plans**

Defined benefit plans are designed to provide participants with a pension benefit that is defined based on a formula. Generally, this formula depends on factors such as years of service and earnings and is described in the formal pension plan documents that set out the terms of the plan. Members of this type of plan are advised annually through a personalized pension statement of the amount of pension benefit they have earned or "accumulated" up to the date of the statement.

With defined benefit plans there are three types of benefit formulae commonly used to determine a member's pension:

1. **Final or best average earnings formula:**

   For each year of service, the formula provides a fixed percentage of your final earnings from employment or the average of your earnings over a fixed period of time (e.g. best 5 years). In other words, your pension adjusts in step with your wages; or

2. **Career average earnings formula:**

   Your annual pension benefit is a fixed percentage of your average annual earnings while a member of the plan. For example, a pension may be determined as 1.2% of your average annual earnings over the members career in the plan; or

3. **Flat benefit formula:**

   Your annual pension benefit is a fixed dollar amount per year of service. For example a pension may be determined as $32 per month per year of service.

**Employer contributions** to a *DB plan* are determined in accordance with ongoing actuarial valuations performed to ensure that sufficient funds are being set aside in order to cover pension benefits. The University’s Plans are contributory plans where members are required to contribute a fixed percentage of salary and the University must make up any contribution requirements.

**Defined Contribution (DC) Pension Plans**

In a *defined contribution plan* (also sometimes referred to as a Money Purchase plan), a specified amount of money is contributed each year for and by you. This money is placed in an investment account in your name. At retirement, these contributions - plus investment income
– are transferred to another registered pension vehicle that can be used to purchase a pension with an insurance company that guarantees the payment of the pension. DC plans are also called money purchase plans because the money in the account is usually used to purchase a life annuity at retirement.

Currently, most DC plans permit employees to make their own investment choices, while others provide that the employer or a board of trustees is responsible for all investment decisions.

Ultimately, the size of the pension provided under a DC plan depends on the amount of the contributions made by you or on your behalf. It will also vary due to the return on the investment of those contributions. Annuity rates (i.e. long-term interest rates) at the time of retirement also may be a factor. As a result of these factors, it is hard to predict the pension that will be provided by the plan.

C: University of Guelph Plans

C.1 Type of Plan
The pension plans at the University of Guelph are contributory defined benefit plans, covering about 3,300 active employees who are currently accruing benefits and almost 2,000 retirees (and beneficiaries) who are currently receiving pension benefits. Member benefits are determined by a formula based on earnings and years of service. The University plans specify that employees contribute a percentage of their earnings each year toward funding the benefit. The University’s contributions each year are not a fixed percentage but are determined as the difference between the total cost (as determined by actuarial calculations) of benefits that are expected to accrue over the year and what employees contribute to the plan. If there is any shortfall between the value of assets and accrued liabilities, the University is required to make additional special payments from its operating budget to fund this shortfall. The past several years have been challenging times for many pension plans given the very difficult financial market conditions. The University of Guelph pension plans have not escaped the impact of volatile asset returns and historically low interest rates, both of which have and continue to create significant pension funding demands for the University.

C.2 University Pension Plans Benefits
Upon retirement, pension benefits are determined on the best average earnings with the University during 36 consecutive months of employment, normally the last 36 months before retirement and on total pension credited service. The following is a summary of some of the major benefits provided by the University Plans.

A more complete presentation of these benefits is contained in the University of Guelph Pension Plans Booklet.
Unreduced Retirement Pension:
• You are eligible for an unreduced pension when you reach age 65 (Normal Retirement Date)
  In addition you may be eligible to retire prior to age 65 with an unreduced pension if you have a certain combination “factors” of age + pension credit service and provided you are of a minimum age. (Note: actual early retirement provisions are specific to each employee group/union at the University.)

Reduced Retirement Pension:
• If you are not eligible for an unreduced pension by the time you wish to retire, you can elect to receive a reduced retirement pension when you are at least 55 years of age.
• Your retirement pension will be subject to a 3% reduction for each year that you retire prior to age 65, or the date when you would have attained any applicable early retirement factor, whichever is reached sooner.

After retirement, pension benefits are adjusted each year to partially reflect inflation. Specifically, pensions are adjusted based on the increase in Consumer Price Index or CPI (with CPI being limited to 8%) that is in excess of 2%.

Working past age 65:
• You must begin collecting your pension when you reach the pension age limit, age 69, even if you continue to work. These payments must start by December 1st of the year in which you turn age 69.

Joint and Survivor Pension:
• If you have an eligible spouse when you retire, a Joint and Survivor pension is payable to you for life and upon your death, it will be reduced so that your surviving spouse will receive 60% of the pension you were receiving before death.
• At retirement, you have a one-time option to increase this survivor benefit to 75% or 100%, with an actuarial reduction being applied to your annual pension payments.

C.3 Governance of the Plans
The University of Guelph has two main pension roles: i) the University is the legal Sponsor of the pension plans, determining benefit terms, setting funding policy (within prescribed boundaries) and remitting contributions as required; and ii) the University is the Administrator of the Plans, processing member contributions, undertaking regulatory filings, overseeing investments and safe-keeping of plan assets and other duties. The Pension Benefits Act (PBA) defines fiduciary duties of pension plan administrators in Ontario.

The University’s Board of Governors is ultimately accountable for the governance and administration of the University’s pension plans with the objective of ensuring that all responsibilities and obligations of the plan and fiduciary responsibilities are met. The Board of Governors has delegated governance and administrative responsibility, with oversight, to its Pensions Committee, which is composed of members of the Board of Governors as well as
members of the pension plans. The Pensions Committee, in turn, has delegated investment management responsibility to the Investment Management Committee (IMC). The IMC is composed of external (non-university) individuals selected for their experience and knowledge of the investment world. The Pensions Committee has delegated benefit administration to the University’s Administration.

The figure below illustrates the structure of governance of the Plans at the University of Guelph.

As registered pension plans, under each of the University of Guelph’s three plans, the assets are held in trust (i.e. they are not part of the University’s assets). The University, as the Plans’ administrator, engages the services of certain organizations to hold the positions of Actuary, Auditor, and Custodian. Their specific roles are described below. The performance of each provider is reviewed on a regular basis and, if necessary, tenders are issued for new providers in order to ensure the quality of service is retained on a cost effective basis.

**Actuary:** Sponsors of registered pension plans are required to file Actuarial Valuations with the Financial Services Commission of Ontario (FSCO) at least once every three years. Valuations provide the regulators, and the Plans, with an in-depth analysis of the Plans’ financial condition. Preparing a valuation involves providing detailed data regarding the
Plans membership as well as the fund and investment returns to the Plans’ Actuary. The Actuary produces the valuation using actuarial tables and assumptions regarding future conditions such as mortality, investment returns, salary and inflation. Once the valuation is completed, it must be signed by the Actuary and filed with FSCO. The University Plans actuaries are Towers Watson.

Auditors: In order to comply with pension legislation, registered pension plans must file annual Audited Financial Statements with FSCO. Audits are meant to ensure that FSCO receives complete and error-free documentation of the fund’s assets and expenses. Each year, the University completes the previous year's Financial Statements, which are then examined by an external auditor who is licensed to sign Audited Financial Statements and is a member of a public accounting body conducting an auditing practice. Once the Financial Statements have undergone the Auditor’s assessment, they are reviewed by the Audit Committee of the Board of Governors and filed with FSCO. The University Plans auditors are PricewaterhouseCoopers.

Custodian: The main role of a pension plan’s Custodian is to receive the employer and employee contributions on behalf of the Plan. It also maintains the invested assets, keeps the accounts for all investment and disbursement activity and provides activity reports to the Plan Administrator. In the case of the University’s Plans, the Custodian also makes payments to pensioners on behalf of the plan. The custodian for the University’s Plans is CIBC Mellon.

C.4 Important Dates
The University of Guelph has two key dates that are used to manage major events for the Plans. First, the fiscal “year-end” for the Plans is September 30th. This means that October 1st to September 30th is the 12 month period for which audited financial statements and other regulatory filings must be prepared each year. Second is the “valuation date” – the most recent valuation was performed at August 1, 2010. Complete valuations are required every three years (they may be done more often) meaning the next valuation for University Plans must be no later than August 1, 2013 - refer to Section D for information on “valuations”).

- August 1st [Valuation Date]: The last valuation date of the University’s Plans was August 1, 2010, meaning that the next valuation is required by August 1, 2013.
- September 30th [Financial Year End for the Plans i.e., Audited Financial Statement date]

C.5 University Pension Plans: Numbers at a Glance

C.5.1 Membership
In total, for the three University Plans, there are about 5,500 plan beneficiaries (active employees, retirees and former members with deferred benefit entitlements). This represents a 10% increase since 2007. In terms of the composition of the membership, the proportion of
active members to retirees, beneficiaries and deferred vested members has been impacted by retirement incentive programs in recent years in combination with slower rates of hiring due to budget constraints. Refer to the Table 1 below.

Table 1
University of Guelph Pension Plans
Combined Membership for All Three Plans (For Fiscal Years Ending September 30)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actives</td>
<td>3,272</td>
<td>3,322</td>
<td>3,300</td>
<td>3,296</td>
<td>3,301</td>
</tr>
<tr>
<td>Retirees &amp; Beneficiaries</td>
<td>1,710</td>
<td>1,737</td>
<td>1,771</td>
<td>1,857</td>
<td>1,957</td>
</tr>
<tr>
<td>Deferred Vested*</td>
<td>69</td>
<td>142</td>
<td>279</td>
<td>269</td>
<td>295</td>
</tr>
<tr>
<td>Total</td>
<td>5,051</td>
<td>5,201</td>
<td>5,350</td>
<td>5,422</td>
<td>5,553</td>
</tr>
</tbody>
</table>

As a % of total Plan members:

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actives</td>
<td>65%</td>
<td>64%</td>
<td>62%</td>
<td>61%</td>
<td>60%</td>
</tr>
<tr>
<td>Retirees &amp; Beneficiaries</td>
<td>34%</td>
<td>33%</td>
<td>33%</td>
<td>34%</td>
<td>35%</td>
</tr>
<tr>
<td>Deferred Vested*</td>
<td>1%</td>
<td>3%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

“Deferred Vested” refers to those plan members who have left the University, and who are entitled to but have not yet decided on how they wish to receive their vested Plan benefits. This is a temporary status.

C.5.2 Some Financial Metrics

Table 2 below presents some major financial metrics of the University’s Plans.

Table 2
Combined Pension Plans: Summary of Major Changes in Plan Assets For the Year Ended September 30, 2011

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pension Payments from Plans</td>
<td>41.4</td>
<td>46.6</td>
<td>39.5</td>
<td>49.7</td>
<td>60.2</td>
</tr>
<tr>
<td>Administration Expenses</td>
<td>1.4</td>
<td>1.3</td>
<td>1.4</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Total Expenses and Payments</td>
<td>42.8</td>
<td>47.9</td>
<td>41.3</td>
<td>51.0</td>
<td>61.6</td>
</tr>
<tr>
<td>Employer Contributions</td>
<td>48.3</td>
<td>41.1</td>
<td>14.4</td>
<td>21.2</td>
<td>38.5</td>
</tr>
<tr>
<td>Employee Contributions</td>
<td>10.6</td>
<td>13.0</td>
<td>13.6</td>
<td>13.1</td>
<td>13.4</td>
</tr>
<tr>
<td>Investment Income</td>
<td>69.2</td>
<td>(94.8)</td>
<td>45.1</td>
<td>52.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Total Income and Contributions</td>
<td>128.1</td>
<td>(40.7)</td>
<td>73.1</td>
<td>87.0</td>
<td>52.2</td>
</tr>
<tr>
<td>Total Fund Assets</td>
<td>884.9</td>
<td>796.3</td>
<td>828.1</td>
<td>864.1</td>
<td>854.7</td>
</tr>
</tbody>
</table>

Some significant events within the pension year ending September 30, 2011 were:
- Payments, including both payments to pensioners and lump sum termination benefits (e.g. commuted value) from the Plans were about $45 million (5.2% of Plan assets).
• Investment returns reflected a slowdown in the global financial markets (Refer to section E for more on assets.)
• Employer contributions totaled $38.5 million meeting all contribution requirements.

C.5.3 Expenses

Administrative expenses (Table 3) comprise: administrative and consultant services provided by external suppliers, University of Guelph staff (equivalent to the expenses of five University staff), fees paid to external managers and fees paid to the Plans’ custodian to record investment transactions of the fund and to hold fund assets and disburse in the form of pensioner benefit payments. “Other Administrative Fees” mainly consist of provincial regulatory filing fees and miscellaneous expenses directly related to the management of the Plans.

Expenses are charged, as permitted by the terms of the plans and the PBA, and are reviewed by the Pensions Committee annually. In 2011 total expenses increased 10% with the largest increase in investment management fees. The increase in these fees reflects the addition of new managers in more expensive asset classes.

Table 3
Pension Fund Administrative Expenses
In $thousands (For Fiscal Years Ending September 30)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Management and Custodial Fees</td>
<td>3,364</td>
<td>2,885</td>
<td>3,135</td>
<td>3,896</td>
<td>4,255</td>
</tr>
<tr>
<td>Pension Administration Fees:</td>
<td>1370</td>
<td>1,264</td>
<td>1,235</td>
<td>1,212</td>
<td>1,352</td>
</tr>
<tr>
<td>Other Administrative Fees</td>
<td>77</td>
<td>71</td>
<td>169</td>
<td>79</td>
<td>85</td>
</tr>
<tr>
<td>Total expenses</td>
<td>4,811</td>
<td>4,220</td>
<td>4,539</td>
<td>5,187</td>
<td>5692</td>
</tr>
<tr>
<td>Total Fund Assets</td>
<td>892,431</td>
<td>805,621</td>
<td>827,567</td>
<td>864,442</td>
<td>853,955</td>
</tr>
<tr>
<td>Expenses as a percentage of total fund net assets</td>
<td>.54%</td>
<td>.52%</td>
<td>.55%</td>
<td>.60%</td>
<td>.66%</td>
</tr>
</tbody>
</table>

D: Pension Assets

D.1 Investment Objectives

The University Plans’ assets are held in trust, legally and separately from all other University funds. Pension assets are held for the sole purpose of meeting the benefit obligations of the plans and assets may not be withdrawn for the benefit of the University or any other party. Investment activities used to manage these assets are undertaken within a formal framework that estimates the growth of long-term liabilities of our pension plans. This investment framework and its associated policies and objectives, responsibilities and procedures in administering the pension plan assets is captured in a single document required under the PBA, referred to as the “Statement of Investment Policies and Procedures” or SIPP. The long-term investment objectives of the pension fund assets are formally documented in the SIPP.
The liability estimates used in setting asset return objectives are determined using the same valuation approach methods that are used for funding valuation requirements (i.e., going concern valuations). After having assessed the liability needs, an appropriate asset allocation and investment manager structure is created attempting to match those liabilities. This exercise is referred to as an asset/liability study. Under our guidelines, an asset/liability study is to be performed every five years to confirm or adjust the investment framework. (The most recent study was carried out in the summer of 2011 with an effective date of October 1st, 2011 at which time the long-term investment objective of the Plan’s asset was change to match the going concern assumptions.)

At September 30, 2011 the asset return objective was
“ At a minimum, the objective of the Fund is to achieve a long-term (five to ten year period) total rate of return equal to the Consumer Price Index for Canada plus 4.00%....”

Effective October 1, 2011 the asset return objective was changed to;
“The objective of the fund is to achieve a long-term (5 to 10 year period) total rate of return at least equal to the going concern discount rate (currently 6.5%).”

D.2 Asset Mix

In order to achieve the policy objective, the portfolio of investments contains a diversified mix of different asset categories or classes (e.g. equities, fixed income). Investments are allocated to achieve the pension fund’s investment objectives while managing investment risks in a prudent manner. Investing in this asset mix provides diversification of returns and reduces the overall risk of the portfolio. At September 30, 2011, there were six main asset classes for investment purposes: Canadian Equities, Foreign Equities, Alternatives, Fixed Income, Cash and Equivalents and Real Estate. All of these assets are invested through external managers.

The SIPP sets out a target (expressed as a percentage of the total fund) for each of these different asset classes in which the funds may be invested. In addition, there are ranges around this target “mix” of assets, in which actual allocations are permitted. Chart 1 displays both the target versus the actual percentage distribution at September 30, 2011. All actual percentages are within the asset allocation ranges permitted under our SIPP.
Since the values of individual assets vary over time, the actual percentage of the Fund’s assets in each category may vary from the target weighting. The Investment Management Committee (IMC) oversees the actual asset allocation and reviews these weightings regularly. The portfolio is rebalanced if necessary, to maintain the asset class weights within the permissible bands.

### D.3 Investments Results

Over the long term, the Fund’s investment performance is assessed on an asset/liability basis—that is, on the ability of the Plan to meet its obligations. Over shorter term horizons, investment performance is also measured as a comparison against a “benchmark” return. This benchmark return is a composite of the target weightings in each major asset class (from the SIPP) times the returns experienced by market indices in each of these asset classes. This benchmark return is in effect a “neutral” marker against which the more “active” results of our investment managers and asset allocation decisions are measured.

In terms of actual results, the pension fund over the past five years has effectively exceeded both its longer-term policy objective and the benchmark return. Chart 2 displays these results. It clearly illustrates the higher volatility of the actual markets compared to the SIPP objective which, over this period, set a relatively stable target of 4% plus the actual CPI.

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1. Composite Benchmark = 30% S&P TSX Comp Capped + 40% MSCI World ex CAN + 28% DEX Universe + 2% DEX 91-Day T-Bill
2. “Active” references the actions that investment and fund managers take in attempting to add value over general market (index) returns.
E: Plan Valuations: Determining the Funded Position of the Plans

E.1 Objective of Defined Benefit Pension Plans

The overall goal of a pension plan is to provide some level of benefits in order to help assist members achieve a level of financial security in their retirement years. The more immediate financial objective of a defined benefit (DB) plan is to ensure that there are sufficient funds to pay for both current retirees’ pensions and the pensions of its members who will retire in the future. Registered DB pension plans in Ontario are required, under provincial legislation, to fund (provide assets for) their pension benefits. The challenge is determining what is the level of assets (funds) necessary to be set aside to not only meet today’s requirement but the requirements of pensions in the future. The estimate of the associated funding requirements has been assigned to the actuarial profession in combination with provincial legislation prescribing methods that must be used in the calculations.

E.2 Valuations

Essentially, similar to most other business entities, the funded status of a defined benefit pension plan is determined by comparing assets to liabilities. A key component in determining the funded status is calculating today’s value of all future pension benefit payments earned up to the date of the valuation. In doing so, it is necessary to make a series of assumptions ranging from expected inflation to levels of future fund returns and mortality rates. The diagram below (Figure 2) is a very simplified presentation of that calculation. It shows the difference between the sum of the liabilities and assets (which are created from both employer and employee
contributions and net investment income earned on any invested assets). Given the market volatility of invested assets, most plans have either a surplus or deficit at any point in time.

While there are several prescribed methods used to measure or value a pension plan’s financial position, they all are intended to reflect the difference between pension plan assets and pension plan liabilities. These valuation methods are prescribed under the PBA and are performed using actuarial assumptions. Contributions and investment income (net of expenses) determine asset values while assumptions (e.g., discount rates, mortality rates, inflation, number of participants) and benefit provisions determine the liabilities. All of these components can significantly influence the result of any valuation. The primary purpose of a valuation is to measure the surplus/deficit position of the pension plans and to determine the resulting funding requirements.

Plan valuations are required under the PBA at least every three years (from the date of the last valuation). In the case of the University, the last valuations were performed as at August 1, 2010. Valuations may be filed more often by plan sponsors and may be required by legislation annually if certain funded ratio thresholds are not met.

The two principal valuation measures are:

1. **Going Concern Valuation**: This method assumes that the plan will be ongoing and is used to ensure that assets accumulated over time will be sufficient to meet liabilities of the plan when they come due in the future. Calculations use long term assumptions and “smoothing” techniques to reduce volatility and recognize the concept that the plan will continue to operate indefinitely. If a plan is under-funded on a going concern basis, it has an “unfunded liability” which must be funded on an “amortized” basis over 15 years. If a plan is over-funded, it has a surplus.
2. **Solvency Valuation:** Contrary to the going concern basis, this measure assumes the plan will be terminated as at the valuation date ("wind up" event), and that plan obligations are discharged, or “settled” using assumptions based on market conditions in effect at the date of valuation. This valuation utilizes the fair market value of plan assets and the hypothetical wind-up costs for the liabilities. In the calculation of liabilities, it assumes that benefits will be settled through the purchase of annuities or payment of lump sum values using current market rates.

Under current legislation, the cost of indexation (inflation) after termination or retirement may be excluded from the solvency liability calculation. While such exclusion removes a substantial portion of liabilities in accordance with regulation, solvency calculations are much more volatile when compared to going-concern calculations, as they are exposed to market conditions at a point in time. If a plan is under-funded on a solvency basis, it has an “unfunded liability” which normally must be “amortized” over 5 years \(^3\). If a plan is over-funded, it has a *surplus*.

### Pension Plan Surpluses/Deficits

**Deficits:** As Plan Sponsor the University must fund (cover) pension plan deficits. The time required to fund any deficits is prescribed by the PBA and currently is as follows:
- Going Concern deficits may be funded over a period not to exceed 15 years
- Solvency Deficits normally may be funded over a period not to exceed 5 years.

**Surpluses:** Any surpluses must remain in the plans (funds may not be removed) and may be used to assist in meeting future plan funding requirements.

### E.3 Assumptions

As no one knows what the precise cost of pension benefits will be at the time they are paid out, there are many assumptions used in the formal actuarial valuation of assets and liabilities to project a pension plan’s financial state years into the future. These range from salary levels, CPI and mortality rates through to investment returns expected for many years in the future. Economic and financial market factors are particularly significant in determining values. These assumptions are used to estimate what should be set aside today to pay defined pension benefits to current and future retired members in the future. These assumptions establish the today’s costs for funding employee future benefits.

A major assumption used in all valuations is that referred to as the discount (or interest) rate assumption. This rate is used to effectively convert the value of all future estimated liabilities to today’s dollars. The result of this calculation is referred to as the “discounted net present value” of future pension payments. It is significant in that the lower the discount rate, the higher the liabilities and the higher the funding needed for the future pension commitments.

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\(^3\) In 2010 the province enacted legislation that could provide temporary solvency “relief” in the form of an extension of the 5 year payment period for solvency deficits to 10 years. Refer to Section E.5 for more information on this legislation and its impact.
As one might expect, the lower the expected investment earnings, the more funding that has to come from contributions. Discounts rates are determined using a number of different measures however they all must be based on financial market conditions. The impact of discount rates is very significant in pension plan valuations. For example, currently, a 1% decrease in the discount rate can mean about a 14% increase (about $150 million) on the University’s pension plan liabilities.

There are a different set of detailed assumptions used in performing the going concern and solvency valuations. This is because each valuation has different underlying principle objectives; the going concern approach is used to assess funding requirements premised on the plan continuing indefinitely, whereas, the solvency approach is premised on the plan terminating.

E.4 Recent Valuation Results

Valuations, which determine surplus/deficit positions of pension plans, may be expressed in dollar values or funded ratios. Funded ratios are assets divided by liabilities, e.g., ratios less than 100% mean the plan is in deficit, greater than 100% means it is surplus.

Table 4 shows some recent results of valuations for the University of Guelph Plans. This is the result of a combination of events in recent years, including a general decline in investment returns and lower interest rates (discount rates) due to market conditions. Also, in 2006 there was a change in a number of key assumptions (e.g. mortality rates) and new actuarial requirements, which effectively increased liabilities.

Table 4
University of Guelph Pension Plans: Five Year Valuation Results for All Three Plans

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Going Concern – Assets</td>
<td>665</td>
<td>673</td>
<td>720</td>
<td>828</td>
<td>914</td>
</tr>
<tr>
<td>Going Concern - Liabilities</td>
<td>536</td>
<td>621</td>
<td>773</td>
<td>813</td>
<td>959</td>
</tr>
<tr>
<td>Surplus (Deficit)</td>
<td>129</td>
<td>52</td>
<td>(53)</td>
<td>14</td>
<td>(45)</td>
</tr>
<tr>
<td>Going Concern Fund Ratio</td>
<td>124%</td>
<td>108%</td>
<td>93%</td>
<td>102%</td>
<td>95%</td>
</tr>
</tbody>
</table>

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</thead>
<tbody>
<tr>
<td>Solvency – Assets</td>
<td>665</td>
<td>672</td>
<td>718</td>
<td>918</td>
<td>830</td>
</tr>
<tr>
<td>Solvency - Liabilities</td>
<td>644</td>
<td>664</td>
<td>847</td>
<td>912</td>
<td>1171</td>
</tr>
<tr>
<td>Surplus (Deficit)</td>
<td>21</td>
<td>8</td>
<td>(129)</td>
<td>7</td>
<td>(341)</td>
</tr>
<tr>
<td>Solvency Fund Ratio</td>
<td>103%</td>
<td>101%</td>
<td>85%</td>
<td>101%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Note: The Plans formal valuation date was changed to August 1st in 2007. The fiscal (financial year) of the Plans remains September 30.

E.5 August 1, 2010 Valuation

The August 1, 2010 valuation (the most current formal valuation) shows a $341 million net solvency deficit for the Plans. Normally funding this deficit would have required an estimated $71 million per year over five years, contributed from University operations. With the market conditions that created this
deficit for the University Plans’ affecting all DB plans in the province and recognizing the major challenge of funding these deficits under existing legislation, in 2009 Ontario introduced legislation that provided potential temporary “relief”\(^4\).

The temporary solvency relief came in two “Stages”. Under “Stage 1”, the University was required to file a “Plan” with the province indicating both a “Savings Target” (defined in the legislation in a complex set of prescribed calculations) and a more general set of proposed options (changes to future plan benefits, contributions rates and governance structures) that could improve the long-term sustainability of the Plans. The Stage 1 Plan was approved by the province May 2011; reducing the University’s solvency funding requirements to $10 million per year for four years from August 1, 2010 to August 1, 2014. “Stage 2” is the approval to amortize any solvency deficits over a ten year period (beginning August 1, 2014) as opposed to the normal five and is conditional upon the University having achieved the Savings Target for each of our plans. Over the course of the most recent round of negotiations with employee unions and associations, most groups have agreed to structural changes including employee contribution increases. With these changes, the current objective is for the University to achieve Stage 2 relief.

The cash flow impact of the possible extension of the solvency payment period from five to ten years does would mean payments would be smaller than they would have been, but over a longer period of time. However the associated deficits would have to be funded eventually from University operations. It is important to note that future contribution requirements are very much dependent on the market conditions at the time those measurements are taken. As stated before, the University must prepare the next valuations no later than August 1, 2013. As we get closer to that date, we will know more as market conditions become clearer. Until then we will continue to monitor results and “take the temperature” of the Plans on a periodic basis.

\(^4\) While this legislation gave sponsors potential one-time temporary relief from very large payments, it did not decrease the size of the underlying deficit or relieve the sponsors’ ultimate obligation to fund the associated solvency deficits.
APPENDIX A – Glossary of Terms

ACCRUED PENSION - amount of pension credited to a plan member according to service, earnings, etc. up to a given date.

ACTUARY - a professional in the pension and insurance fields responsible for assessing risks and contributions/premiums. In Canada, full professional recognition requires Fellowship in the Canadian Institute of Actuaries.

ACTUARIAL VALUATION: Pension plan administrators must submit an actuarial valuation to the regulator (FSCO) prepared by an Actuary — at least every three years — disclosing the plan’s financial status and the on-going contribution requirements. In Ontario, this report must reflect the financial position of the plan determined on both a going concern and solvency basis.

ADMINISTRATOR - Administrators ensure that the plan is properly funded, manage the plan's investments and disburse benefits to retirees. Administrators may seek advice from professionals (actuaries, lawyers and accountants) and engage service providers (insurance companies and financial institutions). They also appoint custodial trustees to hold pension funds separately from any other funds.

ANNUITY - periodic payments (usually monthly) provided by the terms of a contract for the lifetime of an individual (the annuitant) or the individual and his or her designated beneficiary. An annuity may be a fixed or varying amount and may continue to be paid for a period after the annuitant’s death.

ASSET MIX - refers to the proportions of various types of investments held by a pension fund, usually expressed as a percentage of total investments held in bonds, stocks, real estate, etc.

BENEFIT FORMULA - provision in a pension plan for calculating a member’s defined benefit according to years of service and earnings, fixed dollar amount, etc.

COMMUTED VALUE – Represents the lump sum present value of a member’s earned benefit. Upon termination from the University plans, this amount is offered as a form of settlement in lieu of the earned pension amount. The Commuted Value is determined based on prescribed actuarial assumptions.

CONSUMER PRICE INDEX - The consumer price index measures monthly and yearly changes in the cost of 300 goods and services commonly bought by Canadians. If the combined cost of this “basket” of items goes up, then there has been inflation. The greater the increase, the higher the inflation rate has become.

CONTRIBUTORY PLAN - a pension plan which requires the plan members to make contributions based on a contribution formula.

CREDITED SERVICE - length of service used in the plan formula to determine the member’s pension benefit.
DEFERRED VESTED MEMBERS – refers to terminated employees (former members) who are eligible for a deferred vested pension, payable at Normal Retirement Age.

DEFERRED PENSION - a pension determined at the time of termination of employment, payable at Normal Retirement Age.

DEFINED BENEFIT (DB) PLAN - a pension plan that defines the pension to be provided based on service, average earnings, etc. but not the total contributions. If the plan is contributory, the rate of employee contributions may be specified, with the employer paying the balance of the cost.

DEFINED CONTRIBUTION (DC) PLAN - a plan under which the amount of the employer contribution per plan member and the amount of the employee contribution is specified in advance and the benefits to be received by the pensioner is calculated at the date of retirement based on the accumulated contributions and the return on the investment of the contributions. A DC Plan is also referred to as a Money Purchase Plan.

FINANCIAL SERVICES COMMISSION OF ONTARIO (FSCO): FSCO is responsible for administering a number of the statutes that regulate the financial sector, including the Ontario Pension Benefits Act (PBA). FSCO’s chief executive officer and primary regulator is “the Superintendent.” FSCO is established under the Financial Services Commission of Ontario Act.

FULLY FUNDED - a term describing a plan which, at a given time, has sufficient assets to provide for all accrued benefits.

FUNDING - payments into a pension fund which, with investment earnings on these funds, are intended to provide for benefits as they become payable.

GOING CONCERN VALUATION - This method of calculating the financial condition of a pension plan ("valuation") assumes that the plan will be ongoing and that its assets must be sufficient to meet its liabilities (the pension benefits promised) when they come due in the future. If a plan is under-funded on a going concern basis, it has an “unfunded liability” which must be “amortized” over 15 years. If a plan is over-funded, it has a surplus.

INCOME TAX ACT (ITA) - Federal law governing tax collection and related benefit distribution, administered by Canada Revenue Agency (CRA). For pension plans, it provides tax-sheltered mechanisms for individuals saving for retirement and sets maximum standards for the benefits a plan can provide. It also sets contribution limits for plan sponsors where plan surplus exceeds specified levels.

INDEXING - a provision in a pension plan calling for periodic adjustments to benefits (usually after retirement) according to a formula based on a recognized index of price levels such as the Consumer Price Index.

INVESTMENT MANAGERS - plan sponsors frequently hire investment managers who help them with the investment of fund assets, in accordance with the mandate set out under the plan’s SIPP. These managers are supervised by the plan sponsor.
INVESTMENT RETURN - earnings of a pension fund including interest, dividends and realized and unrealized capital gains and losses.

MEMBER – Refers to individuals who are accruing benefits under the pension plan. Retirees and Deferred Members are referred to as Former Members.

NORMAL COST - actuarial present value of benefits attributed by the pension formula to employee service performed during the current year; also called current service cost.

NORMAL RETIREMENT DATE - means the date or age specified in the pension plan as the normal retirement date of members. For the University of Guelph Pension Plans, it is the date on which the member turns age 65.

PBA (PENSION BENEFITS ACT, 1990) – refers to the Ontario Pension Benefits Act which governs most registered pension plans in Ontario. The University’s Pension plans are subject to the PBA.

PRESENT VALUE - The present value is the value today of an amount that is to be paid in the future. In relation to DB plans, it is used in the context of valuing future promised benefits for funding (valuation) purposes or portability options. Present value calculations involve first estimating a future stream of cash flows (e.g. pension payments) and presenting them in a single amount at today’s value. A “discount rate” is an interest rate used in present value calculations. It is used to recognize the concept that a dollar in the future has less value in today’s terms due to a number of factors such as how much a dollar today is expected to earn over a future time period.

SOLVENCY VALUATION - This method of pension valuation assumes that the plan is about to be wound up so that its assets will have to be used immediately to meet its existing liabilities. If there are more liabilities than assets, the plan has a “solvency deficiency” which must be paid, with interest, over five years. If a plan has greater assets than liabilities on a solvency basis, it has a surplus.

SOLVENCY RATIO - the ratio of the market value of the plan's assets to its liabilities as measured on a solvency valuation basis.

SPONSOR - refers to the employer who sets up a pension plan for employees. Basic sponsor responsibilities include determining benefit and eligibility terms, setting funding (within prescribed legal boundaries) and remitting contributions as required.

TERMINATION – refers to the severance of the employment relationship, for any reason, other than death and retirement.

TRUSTEE – In the context of a pension plan, the entity entrusted with holding the plan’s assets in the best financial interest of the trust’s beneficiaries.

UNFUNDED LIABILITY – refers to any amount by which the assets of a pension plan are less than its liabilities.
VESTED BENEFITS (VESTING) - benefits to which an employee has unconditional entitlement under the plan as a result of satisfying age or service requirements.

WIND UP OF PLAN - this occurs when a pension plan ceases to operate and is terminated. In such a case, all accrued benefits are settled (i.e. either by way of an annuity purchase or in the form of a lump sum) subject to the existence of sufficient funds.

Links

University of Guelph Pension Plan Booklet: http://www.uoguelph.ca/hr/file/1455/download/4572/pdf

Board of Governors: http://www.uoguelph.ca/secretariat/bog/

Pensions Committee: https://www.uoguelph.ca/secretariat/offices/bog/home/standing-committees-and-board-trustees

Investment Management Committee (IMC): https://www.uoguelph.ca/secretariat/offices/bog/bot-composition

Statement of Investment Policies and Procedures (SIPP): http://www.uoguelph.ca/hr/file/1584/download/4993/pdf

Pension Plans Texts: (Professional Pension Plan) http://www.uoguelph.ca/hr/file/1547/download/4933/pdf
and (Retirement Pension Plan) http://www.uoguelph.ca/hr/file/1551/download/4941/pdf

Audited Pension Plan Statement Reports: http://www.uoguelph.ca/finance/reports/pension-plan-statements