

<p>BENCHMARKING GISG WORKING PARTY</p>

**1998 GENERAL INSURANCE CONVENTION
AND
ASTIN COLLOQUIUM**

GLASGOW, SCOTLAND: 7-10 OCTOBER 1998

BENCHMARKING

Authors: David Theaker (Chairman)

James Upson

Stuart Wrenn

Summary

The aim of the paper is to bring together some of the ideas and issues associated with benchmarking, with particular reference to the insurance industry and the actuarial profession. Areas covered include consideration of the characteristics of benchmarks, the use of benchmarking as a business management tool, and a brief look at benchmarking of financial factors. Finally, there is consideration of benchmarking in the area of professional standards.

1 Introduction

1.1 Arguably benchmarking is a technique we apply all the time in our everyday lives, often without even thinking about it. We tend to rate almost every aspect of our lives. How was our day? What is the weather like? Is the Ford XXX a good car? In all these cases we will at least have an opinion of good, bad or indifferent. To make this judgment we must have some criterion, however subconscious, by which we are making this assessment.

1.2 Benchmarking is a term that is becoming commonly used, and a technique regularly employed in a wide variety of businesses. However, what it actually means is not clearly defined, and thus how useful a technique results is uncertain. Despite this it is recognised by GN20 (para 5.3) as a generally accepted actuarial technique. The aim of this paper is to bring together some of the ideas and issues involved, discuss how they might be relevant to the actuarial profession, and from this to suggest possible areas for further investigation.

1.3 Two aspects are considered

- Performance can be compared to that of others to establish relative position and possibly as a method to highlight areas for improvement.
- Benchmark values may be used to make up for a lack of information in one's own data.

1.4 The paper has 6 main sections:

- Definitions and Use of Benchmarking
- Characteristics of Benchmarks
- The Business Excellence Model, an example of a business management process in which benchmarking takes a fundamental role
- Benchmarking and the UK Government
- Financial Factors, the benchmarking of financial ratios and other items which are clearly quantifiable
- Professional standards, the benchmarking of softer issues such as professionalism.

1.5 The nature of this subject is not limited to insurance and therefore the discussion is general in nature. However we have attempted to focus on areas of business and issues which are of particular relevance to the actuarial profession. This is particularly true of the last 2 sections.

The views expressed in this paper are personal and do not necessarily reflect the views of any organisation with which the authors are or have been associated.

2 Definitions and Use of Benchmarking

2.1 The term benchmark originates from the surveyor's use of marks cut in rock to indicate a line of levels. It has developed a more figurative use as a criterion or point of reference. Thus we shall define benchmarking as the process of making a comparison with some point of reference. This is a vague and wide-ranging concept to which the normal rigours of actuarial science are not easily applied. However it is something actuaries are increasingly being asked to undertake, and in many cases suggest and/or supply the benchmark.

2.2 Why benchmark?

It is not possible to operate in splendid isolation from others when part of a competitive market place. Thus to know how one is positioned relative to competitors is useful and can indicate areas where performance might be improved or highlight where outperformance has been achieved and needs to be maintained. A new operation may have insufficient information to make an informed estimate of a quantity, and therefore has to rely on a benchmark figure eg IBNR reserves for a new company.

2.3 Advantages

- You can learn about your own performance relative to others, and help to improve it in future.
- You can operate reasonably without full information

2.4 Disadvantages

- The world is constantly changing — yesterday's benchmarks may not apply tomorrow.
- You may not be comparing like with like (even if you think you are) - differences may be significant.
- There may not be enough data to develop the benchmarks you require.

2.5 The setting of targets, by a benchmark or otherwise, has its dangers. A (possibly apocryphal) story:-

In the days of the former Soviet Union, a producer of windows was told by the central bureaucracy to maximise its production. The first criterion of "production" which was set was the total weight of glass windows it made. So it made each window so thick and heavy that the window frames could not cope with the excessive weight. Then the window producer was told to produce as many windows as possible. To save on raw materials, it made each window so thin that the slightest pressure would make them crack.

2.6 This story illustrates the general rule that "any measure used to control performance in future will become useless because of actions taken by those being measured to manipulate their performance relative to the benchmark at the cost of other factors" - an example of Goodhart's law. Organisations looking to set performance targets in several areas need to beware of conflicting benchmarks, or of ignoring other aspects (as our glass maker did).

2.7 Who might benchmark (in an insurance context) & why

- Companies - to improve performance and to help establish financial standards when full information is not available (ie to support "judgment")
- Policyholders - in getting the cover they require at the best price
- Regulators - comparing performance of companies to pick out in particular those not doing very well
- Analysts - to identify those quoted companies that are performing better or worse than the market
- Brokers - to identify companies to place business with (or to avoid)

It thus becomes possible to suggest a useful benchmark as one which, once the comparison has been made, suggests the appropriate action to make use of the result.

3 Characteristics of Benchmarks

3.1 Benchmarks come in a wide variety of forms and can be used for different purposes. A particular benchmark could be a lower limit that it is necessary to exceed, an upper limit to strive for, or an average level which it is possible to be above or below. Examples: A climbing rope manufacturer will require each of its ropes to exceed a certain breaking strain. A motor insurer might target a 100% renewal of existing policies, a level never likely to be achieved. Investment managers are often targeted with being in the upper quartile - performance may prove to be either side of this line.

3.2 Benchmarks may be quantitative or subjective. For quantitative measures, the comparison is easily made and people will draw the same conclusion. There is no doubt that a loss ratio of 90% exceeds a benchmark figure of 85%. However the statement that a company's claims handling service is worse than the market average is far less clear-cut. Both are important areas a company might wish to improve in.

3.3 An essential part of the benchmarking process is that it leads to a modification of behaviour in a positive manner. As demonstrated above, by having a benchmark in place behaviour may be modified to achieve a positive result against the benchmark, despite this not being beneficial to the company. It is therefore imperative that benchmarks used encourage the type of overall performance desired.

3.4 The question it is necessary to ask when considering a particular benchmark is - is it useful? To be useful it must provide focus on the area being investigated. It then needs to identify significant performance deviations. Is a value 5% above or below the benchmark figure significant? Or should attention only be raised when a value is 50% higher or lower. A benchmark should ideally indicate corrective actions and stimulate long term improvement.

3.5 Poor benchmarks can be ineffective or even damaging to business objectives. They may:

- distract attention from important issues if poorly targeted
- cause confusion if they contradict other directives
- cause a defensive approach leading to missed opportunities

Each of these demonstrate how it is possible for inappropriate benchmarking to adversely affect performance.

3.6 The characteristics of a successful benchmarking exercise can be summarised as:

- the benchmark must measure the right thing to achieve the objective
- the right method of measuring must be used to avoid distortion
- the result must be interpreted and responded to in the right way

Although achieving these in practice may well cause considerable difficulties, awareness of these issues is essential.

4 Business Excellence Model

4.1 The Business Excellence Model provides a framework for continuous improvement of Organisations. It has been developed by the British Quality Foundation, and can be applied to companies as a whole, or individual business units.

4.2 The main features are:

- Structured approach to assess own business
- Provides standardised benchmark for business as a whole
- Four part process: Self Assessment, Benchmarking, Identify Improvements, Implement
- Cyclical procedure

4.3 The model consists of 9 elements: Leadership, Policy and Strategy, People Management, Resources, Processes, Customer Satisfaction, People Satisfaction, Impact on Society and Business Results. Each of these has a series of sub-classes.

4.4 Assessment is performed by grading performance in each of the constituents of the subclasses using a standardised scale. Scores are then totalled for each of the primary elements, and then to a final total. This gives indications of relative performance for different areas of the company, and a method that allows comparison with other companies.

4.5 The Business Excellence Model demonstrates the importance of knowing what it is desired to achieve with a benchmarking exercise, and choosing a measure which will be useful in achieving that objective. For those that are interested, some further information on the model is provided in the Appendix.

5 Benchmarking and the UK Government

5.1 The word "benchmarking" has increasingly been appearing in a number of UK Government documents relating to financial services, and it is quite possible that this trend will continue.

5.2 The Department of Trade and Industry (DTI) published "Critical Factors for Success in the UK Insurance Industry" in 1996, which followed an analysis of the key factors indicating the long term success (or otherwise) of an insurer. The aims of the study were:

- "... to feed the distilled wisdom back to the participating companies and the remainder of the industry."
- "To identify the critical success factors capable of sustaining competitive advantage."
- "To provide an insurance template for the British Quality Foundation benchmarking work, now being introduced into the industry."

5.3 The main finding was that if a company differentiated itself from the rest of the market by product (in the narrow sense of solely of coverage, not quality and service) and/or by price, then no sustainable competitive advantage can be achieved. This is because a competitor can offer a similar product and price almost immediately.

5.4 However, there were a number of ways in which long term differentiation can be achieved:

- People, Relationships and Culture (the quality and suitability of the people in the insurer, their leadership and their strategic management)
- Processes and Service Delivery (the competitive advantage of being customer oriented, whilst providing staff who deal with customers daily with the freedom to act so that they have ownership of the resolution of customer queries and the responsibility for the delivery of customer service)

- Operational Excellence (the critical insurance dynamics of underwriting, pricing, claims and loss control, marketing and expense control)
- Agility and Continuous Imaginative Improvement (the importance of being proactive rather than merely reactive, and empowering staff to identify areas of improvement and innovative solutions without fear of failure)
- Branding (recognising that building a brand can take a long time, much effort and resource, it can be powerfully attractive to customers and a reason for staff to be pro their insurer)

In all of these areas benchmarking is a way to improve performance.

5.5 There has been publicity recently (at the time of writing) about the possibility of benchmarking of various features (reasonable costs, easy access and reasonable terms) for the introduction of Individual Savings Accounts (ISA) next year - the so called CATmark standards. It remains to be seen whether such an approach will eventually be adopted in some form or other.

6 Insurance Context: Financial factors

6.1 It is possible to benchmark (or compare) virtually any aspect of performance - not necessarily restricted to financial topics. These financial factors might be easier initially because they tend to be more objective and susceptible to measurement.

6.2 It can be difficult to benchmark insurers at a company level, since it is rare these days for any two insurers to be directly comparable, in terms of what insurance they underwrite, which territories they write business in and even the distribution channel used (tele-sales, broker-based, a mixture). It would be nice to split up the reports from each insurer into its components, and examine corresponding business units side by side. Unfortunately, much or all of the published data does not allow this, being consolidated.

6.3 One of the biggest difficulties in benchmarking against other insurers is lack of high quality data. Yes, public data does exist (from Reports and Accounts, insurance associations, etc.) but the definitions of even such basic concepts as line of business, incurred claim, expenses etc vary enormously. It does not help that insurers often have different year ends, and therefore the data, such as it is, is compiled at different dates.

6.4 Secondly, even having dealt with the definitions of items being different (possibly by ignoring the difference) the mixture of business being written is often different as well. Comparing a personal lines insurer with a commercial lines insurer can quickly be recognised as a waste of time, but what if the ratios of personal to commercial lines are 60:40 and 50:50? And what if one insurer consolidates its operation in Spain, whereas the other is an international group whose main subsidiary is in the USA?

6.5 Data Sources (for UK companies)

HM Treasury returns - these provide some attempt at consistency in reporting, but there is still scope for improvement as far as gross of reinsurance risk groups (and business categories for reinsurance business accepted). There are several commercial organisations which collect the data and make it easily available for anyone with access to a modern PC.

Companies Act accounts now have a greater degree of standardisation as a result of the implementation of the Insurance Accounting Directives and provide greater scope for comparison with other European insurers (although there are still significant differences in accounting standards and practice within Europe). The level of detail may well not be sufficient for detailed work.

Trade Bodies (eg ABI, LIRMA etc) - usually only available for those members who contribute to the data collection surveys, although some summary results may be made more widely available. At present the biggest threat here is the potential withdrawal of some of the largest players who perceive that their experience is big enough for them to gain little extra benefit from participating, but that participating could give away a valuable competitive advantage.

Consultants are often used by companies as a source of benchmarks (or industry comparison). Their data (or "market experience") comes from working on a variety of projects for a range of companies. No doubt they attempt to "capture" relevant information for use with other companies where a benchmark is required.

There are various sources of information to enable benchmarking of premium levels for personal lines business, ranging from articles in magazines to companies telephoning competitors, pretending to be potential customers to find out more about service levels, coverage, and in particular, prices.

6.6 Contrast this with the position in the US. Here there is much data at detailed level publicly available as a result their premium rate filing requirements. And this leads to the potential for data to be used for a wider variety of purposes.

Reserving

6.7 As mentioned before, GN20 recognises benchmarking as a generally accepted actuarial technique. So what is it?

6.8 At a very crude level, it might just be a ratio such as that of total reserves to premium income. Despite its crudeness and severe limitations, it is a ratio often used by analysts / commentators who are keen to get a quick impression of a company's financial position, although its usefulness for rapidly growing companies is doubtful.

6.9 Improvements could be made by assessing the components of reserves by different types of business and changing volumes over time by selecting ultimate loss ratios for each line / year as required, and adjusting for claims paid to date, or using benchmark %ages outstanding (from standard run-off patterns).

6.10 Whenever development period ratios are considered as part of chain ladder techniques, the actual results are often adjusted as a result of the application of "judgment". This includes particularly the selection of a tail factor, which can have a big impact on the final results. The application of "judgment" could be a result of using benchmarks obtained from the development experience of the business of other companies. One such source of benchmarks is the claims run-off patterns produced each year for GISG - although their limitations are well known.

6.11 Establishing an IBNR related to reported outstanding claims or to claims paid in the most recent year or two is a technique that may be used in lines of business experiencing considerable uncertainty. Indeed for smaller insurers with limited own experience to base estimates on, such approaches may be the only practical way forward. This perhaps also represents a reasonable way of assessing reserves held against others in the market place for such business.

6.12 One use of benchmarking would be to try and compare one company's reserves against another - clearly in a competitive market it could be a disadvantage to hold reserves which are much stronger than the competition (whilst always bearing in mind the need for reserves to meet statutory and market requirements). This is clearly difficult without having full details of the business written, and experience to date. One method would be to use the claims run-off data published for each company, and use run-off patterns developed from standard market benchmarks, adjusted to take account of specific characteristics of each company's business. Such data for the UK might come from published HM Treasury (formerly DTI) returns.

6.13 Suppose Company A has compared its reserves against Company B, an apparently identical competitor (as mentioned above, this is more hypothetical than a realistic possibility) and discovered that the competitor has 20% higher claims reserves. What could this mean?

Option 1. Company A is badly under-reserved. Panic stations! Sack the reserving actuary!

Option 2: Company B is highly over-reserved. If their share price quotation (assuming one exists) does not reflect this, maybe they are a target for a (hostile) take-over bid.

Option 3: Company A hasn't read Company B's accounts carefully enough. Although they currently write similar business, B has stagnated, whereas A has expanded in recent years, so has lower reserves from what little business was written in past years.

Option 4: Company A discounts their reserves more than B (or some such accounting difference which does not reflect underlying performance). If so, how should this be adjusted for?

This does all suggest that benchmarking is potentially a very dangerous technique if not used without fully understanding the nature of the benchmark and all the implicit assumptions that are being made.

Other areas

6.14 **Investment management** is an area where there has been much work done on the subject of benchmarking. Benchmarks are often used to establish performance targets for investment portfolios, and hence influence the remuneration of investment managers. It might also be used as part of the process of determining overall investment strategy.

6.15 **Expenses** and expense reduction often seem to be a key part of many companies plans for the future. As noted above, benchmarking techniques can play an important place in the process. For the more progressive organisations, benchmarking of service costs might more usefully concentrate on well respected companies delivering high quality value for money services in other industries, rather than just looking at the usual insurance industry competition.

6.16 Benchmarking can also play a role in **reinsurance**, both the selection of suitable companies for placing future business (eg not less than A rated by a credit rating agency), and in consideration of the size of retentions. For companies with significant amounts of old liabilities which may have the benefit of reinsurance protection, benchmarking may be a useful way of establishing or getting confidence in bad-debt reserves.

7 Professional Standards

7.1 There is a trend towards being able to justify that work done is of a suitable standard. This may be for a variety of purposes and from different perspectives. A person undertaking some work may wish to demonstrate it is of a certain standard. Someone commissioning some work from a third party may wish to demonstrate it is of a certain standard to their superiors.

7.2 Focusing more directly on the actuarial profession, these concepts can be repeated with only marginally more specific criteria.

- A company will be concerned that the work of its actuaries is up to a certain standard.
- An employer of consultants will be concerned that the work they produce is up to a certain standard.
- Regulators will be concerned that the actuarial opinions on which they rely are produced to a certain standard.

7.3 Each of these can be reversed in that the actuary undertaking the work may wish, or be required, to demonstrate that their work is of a certain standard. This raises the question whether the standard required is the same from each perspective.

7.4 The first difficulty in performing such a task is: what is the certain standard?, i.e. the benchmark. Approaches that could be used include:

- To get two (or more) independently produced pieces of work done to the same terms of reference. This is expensive and although it gives a comparison between the pieces of work, does not rule out the fact that they could be anywhere in the range of possible standards from excellent to poor.
- To have in place a system of checking and peer review. This can be demonstrated as having been followed quite simply. However if the checkers/reviewers are part of the same organisation, then it may be difficult to quantify this against a different organisation.
- When a formal report is produced it may be possible to obtain copies of reports from other organisations on a similar topic. This would allow some comparison of presentation and subjects covered, but not on the quality of any underlying work.

7.5 All the comparisons discussed so far only consider actuaries in isolation. This may not be sufficient. Comparison could be made with other professions such as accountants or solicitors.

7.6 The Institute and Faculty have issued guidance notes which provide some help in this area. Clearly work which has been done in accordance with formal standards might be expected to meet "the required standard". However, it is difficult to police these standards, and there is still scope for "professional judgment" as to what is significant in the context or not. Peer review by an experienced colleague can again help to give confidence. However, there is still the question of the standard of the work of actuaries compared to the work of other professionals.

7.7 Some organisations professing to deliver good service and/or a quality product often strive for independent certification, perhaps ending up with ISO 9000 certification or the like. The ISO 9000 family of standards represents an international consensus on good management practice. It is not concerned with how to provide high class products or services per se, but in maintaining a business framework which enables a company to continually improve the service that is produced. It requires that a company has a documented system which describes how each of the components in the standard are addressed. These include training of staff, ensuring the product/service is correct, and handling and future prevention of mistakes along with many others.

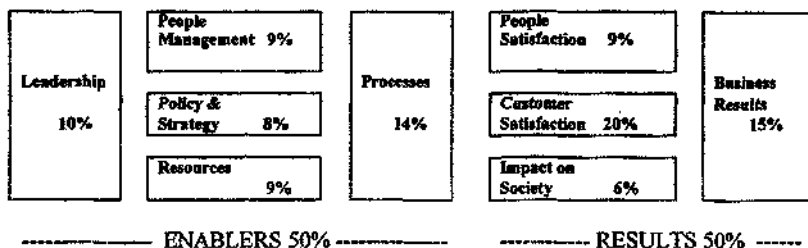
References

GN20 of the Institute and Faculty of Actuaries

"Critical Factors for Success in the UK Insurance Industry" - Department of Trade and Industry (1996)

"Towards Business Excellence" - British Quality Foundation

Appendix The Business Excellence Model



Development:

In the early 1980's governmental and industrial leaders in the West became concerned at the low levels of productivity, leading to a failure to compete effectively in world markets. This concern was the subject of a national study in America commencing in October 1982, which eventually resulted in the introduction of the Malcolm Baldrige National Quality Award (MBNQA). This award was determined by reference to a self appraisal of the organisation against a structure of seven categories with associated guidelines. It was established in 1987.

The following year the European Foundation for Quality Management (EFQM) was established by a handful of companies with international interest who began looking at recognition systems which could be used to acknowledge business excellence in European organisations. They reviewed various mechanisms including MBNQA and the Deeming prize then established the European Quality Award (EQA) model having tested its validity on over 400 respected companies.

Based upon the Baldrige model it consists of nine criteria which cover elements essential to effective business management. Each criteria addresses a range of issues which add up to a total of 33 sub-criteria which need to be addressed in the self assessment process.

In 1992 a committee with Sir Denys Henderson as chairman examined the "feasibility of developing a new prestige award for British business." Their report acknowledged the relevance of the EQA method to the UK and recognised the benefits of maintaining uniformity within the EU community. It was therefore adopted in the UK as the British Quality Foundation was established, both to run the award and promote business excellence. The model is used to determine the UK Quality Award, the first ones being given in 1994.

The model was initially referred to as the European Award Model, then the European/UK Award Model but is now commonly accepted as the Business Excellence Model. The EFQM have ownership of the model and together with the national guardians, such as the BQF, review its continuing relevance on an annual basis.

Individual Criteria and sub-classes

The Enablers criteria are concerned with what is done to run the organisation and how it is operated.

Leadership

Visible involvement in leading Total Quality

A consistent Total Quality culture

Timely recognition and appreciation of efforts and successes of individuals and teams

Support of Total Quality by provision of appropriate resources and assistance

Involvement with customers and suppliers

Active promotion of Total Quality outside the organisation

People Management

How people resources are planned and improved

How the skills and capabilities of the people are preserved and developed through recruitment training and career progression

How people and teams agree targets and continuously review performance

How the involvement of everyone in continuous improvement is promoted and people are empowered to take appropriate action

How effective top-down, bottom-up and lateral communication is achieved.

Policy and Strategy

How policy and strategy are formulated on the concept of Total Quality

How the policy and strategy are based on information that is relevant and comprehensive

How policy and strategy are implemented throughout the organisation

How policy and strategy are communicated internally and externally

How policy and strategy are regularly updated and improved

Resources

Financial resources

Information resources

Suppliers, materials, building and equipment

The application of technology

Processes

How processes critical to the success of the organisation are identified

How the organisation systematically manages its processes

How the processes are reviewed and targets set for improvement

How the organisation stimulates innovation and creativity in process improvement

How the organisation implements process changes and evaluates the benefits

The Results criteria are concerned with what the organisation has achieved and is achieving as seen by those who have an interest in the organisation; its customers, employees, the community and those who fund the organisation.

Customer Satisfaction

The customers' perception of the organisation's products, services and customer relationships

Additional measures relating to the satisfaction of the organisation's customers

People Satisfaction

The people's perception of the organisation

Additional measures relating to people satisfaction

Impact on Society

The perception of the community at large of the organisation's impact on society

Additional measures relating to the organisation's impact on society

Business Results

Financial measures of the organisation's success

Non-financial measures of the organisation's success

The Enablers

The Assessor scores each part of the Enablers criteria on the basis of the combination of two factors.

1. The degree of excellence of your approach.
2. The degree of deployment of your approach.

APPROACH	SCORE	DEPLOYMENT
Anecdotal or non-value adding	0%	Little effective usage.
Some evidence of soundly based approaches and prevention based systems Subject to occasional review Some areas of integration into normal operation.	25%	Applied in about one quarter of the potential when considering all relevant areas and activities
Evidence of soundly based systematic approaches and prevention based systems. Subject to regular review with respect to business effectiveness. Integration into normal operations and planning well established.	50%	Applied to about half of the potential when considering all relevant areas and activities.
Clear evidence of soundly based systematic approaches and prevention based systems. Clear evidence of refinement and improved business effectiveness through review cycles. Good integration of approach into normal operations and planning.	75%	Applied to about three quarters of the potential when considering all relevant areas and activities.
Clear evidence of soundly based systematic approaches and prevention based systems. Clear evidence of refinement and improved business effectiveness through review cycles. Approach has become totally integrated into normal working patterns. Could be used as a role model for other organisations.	100%	Applied to full potential in all relevant areas and activities.

For both "Approach" and "Deployment", the Assessor may choose one of five levels 0%, 25%, 50%, 75% or 100% as presented in the chart, or interpolate between these values.

The Results

The Assessor scores each of the Results criteria on the basis of the combination of two factors.

1. The degree of excellence of your results.
2. The scope of your results.

RESULTS	SCORE	SCOPE
Anecdotal.	0%	Results address few relevant areas and activities.
Some results show positive trends and/or good performance. Some favourable comparisons with own targets.	25%	Results address some relevant areas and activities.
Many results show strongly positive trends and/or sustained good performance over at least 3 years. Favourable comparisons with own targets in many areas. Some comparisons with external organisations. Some results are caused by approach	50%	Results address many relevant areas and activities
Most results show strongly positive trends and/or sustained excellent performance over at least 3 years. Favourable comparisons with own targets in most areas. Favourable comparisons with external organisations in many areas. Many results are caused by approach.	75%	Results address most relevant areas and activities.
Strongly positive trends and/or sustained excellent performance in all areas over at least 5 years. Excellent comparisons with own targets and external organisations in most areas. "Best in Class" in many areas of activity. Results are clearly caused by approach. Positive indication that leading positions will be maintained.	100%	Results address all relevant areas and facets of the organisation.

For both "Results" and "Scope", the Assessor may choose one of five levels 0%, 25% 50%, 75% or 100% as presented in the chart, or interpolate between these values.