Pension Protection Fund

PPF consultation

Introduction of insolvency risk services with Dun & Bradstreet and consultation on changes to our insolvency scoring methodology from 2021/22

December 2019

Foreword

The publication of this document marks the start of our new partnership with Dun & Bradstreet (D&B) and the introduction of a range of new services.

From today, stakeholders can view insolvency risk scores produced by D&B through a brand new online portal, and engage with D&B customer services through a wide range of channels including – for the first time – webchat and online query options. Alongside this is a new levy section of our website and the option of online response to our consultations – including this one. We are introducing the new portal in 'beta' form as further improvements will be made.

The move to D&B follows the successful partnership with our existing provider Experian. We are proud of the work we have done with the Experian team - producing and refining our PPF-specific insolvency risk model. This model continues to work well and enjoys support.

However, our contract with Experian ends in 2021 and public procurement regulations required us to undertake a competitive procurement for services beyond that date. We took the opportunity to look for a partner who could not only build on the successes of the existing methodology but who could also help us develop services fit for the 21st century.

As the insolvency risk methodology established with Experian is working well, D&B will be using largely the same approach. However, D&B scores will be recalibrated to ensure they reflect actual insolvency experience. We are also seeking views on a small number of changes that seek to respond to stakeholder feedback, for example, replacing the Mortgage Age variable. A further important change is that D&B collate and manage data differently from Experian. Inevitably these changes do mean a proportion of schemes will see employers changing scores and this document sets out our analysis of those impacts.

Of course, Experian have been working with our levy payers since 2014, and have over time built a good understanding of what can be unique corporate structures or accounting arrangements. In this introductory phase, therefore, we strongly encourage levy payers to engage with D&B to help ensure the latest and most accurate information will be used in scoring.

This is an exciting moment for us. We believe the changes we are introducing with D&B are significant improvements– but we need your input to help us get this right. In this consultation we are seeking your views on our new services and on adjustments to our insolvency risk methodology. We hope you will take this opportunity to give us your views.

David Taylor

David Taylor
Executive Director and General Counsel

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1. Introduction and Executive Summary

1.1. Introduction

1.1.1. This paper introduces the services that we are launching for levy years from 2021/22 in partnership with our new insolvency risk services provider Dun & Bradstreet (D&B) following their appointment as a result of a competitive procurement. A range of improvements are planned, in terms of our customer services and in terms of the information used in assessing companies.

1.1.2. In addition, this paper consults on our plans for the model to be used to assess insolvency risk in charging pension protection levies, for the years after 2020/21. It forms the first part of wider consultation on our levy methodology that will conclude with the setting of rules for the 2021/22 levy in December 2020.

1.1.3. Subsequent consultations will cover other aspects of the assessment of insolvency risk – such as whether the current grouping of scheme employers into 10 bands, and the associated levy rates, remain fit for purpose. We will review issues such as how we assess the funding position of schemes, including the asset information used and the stresses applied to assets and liabilities. We will also set out how much we expect to collect in 2021/22, reflecting the funding environment in 2020.

1.2. Customer service

1.2.1. In our strategic plan we committed to developing our systems to offer an improved level of customer service to our levy payers. Some elements of that have already been rolled out – with the re-design of our website. We have orientated the site around 'levy-years' and introduced new functionality including providing videos to explain aspects of the levy. We hope these changes will make it easier and quicker to find relevant information and also to understand what action needs to be taken and when. We also wanted to ensure that more levy payers could engage with and respond to our consultations – and have introduced new functionality to allow submission of responses online.

1.2.2. We are also taking the opportunity presented by the move to D&B to modernise services. To help deliver this we are investing in new systems and processes. Perhaps the most critical element is a new web-based portal providing information on scores. While in terms of functionality this will offer a similar range of information to the current portal, the user experience should be significantly improved. Access will be available from the PPF website and the portal has been designed to offer the user an intuitive range of information on scores, how they have been calculated and the data used. A 'what-if' tool to help stakeholders understand the impact of changes in data is now available on-line rather than requiring a download process.

1.2.3. The portal has been launched in beta form, as we expect to develop it further ahead of the point at which scores start to be used for 2021/ 22 levies, which we expect to be in April 2020. We are keen to receive feedback on the portal to help inform development.

1.2.4. We have also developed new ways for stakeholders to raise queries with web chat functionality and the option for online queries supplementing the existing options of email and phone. We are introducing one phone number for all levy related queries, with easy to understand options that will get callers to the right team with the least fuss.

1.2.5. We strongly encourage stakeholders to review their scores on the new portal and check that the information D&B hold is up to date and accurate. Any issues or concerns should be raised with D&B and where appropriate stakeholders will also want to consider self-submitting accounts (e.g. where the latest accounts for an employer are not publicly available). This will help ensure that the information on which companies are scored is as accurate as possible by the time D&B start live scoring. At the same time feedback on customer services – especially the portal – will help us develop the service to meet customer needs.

1.3. Development of the PPF-specific insolvency risk model

1.3.1. Since 2015, the great majority of the insolvency risk scores we use in the levy have been produced for us by Experian using a statistical model (the PPF-specific model) we developed with them. Experian take information (largely from company accounts), assign companies to an appropriate scorecard based on data held and then calculate an insolvency risk score based on the variables measured on that scorecard. For levies charged from 2021, Dun & Bradstreet (D&B) will replace Experian as our insolvency risk partner.

1.3.2. The move to D&B was the result of an open procurement – required under public sector procurement rules - and did not reflect dissatisfaction with the existing model or the Experian service generally. Our view is that the current model is working well and feedback suggests that levy payers are largely satisfied with it. Our starting point therefore has been to avoid unnecessary change. In line with that, D&B have built a replica, tested it, and proposed changes to scoring methodology only where there was a clear case or need to do so.

1.3.3. D&B have built a version of the existing model that produces the same outputs when the same data are input (the 'replica' model). However, approaches to data collection, matching and corporate linkage are different between D&B and Experian. We have worked with both suppliers to understand and, where appropriate, eliminate differences. We set out in section 4 the main reasons for differences in scores.

1.3.4. D&B and our independent expert adviser have conducted a range of tests to assess the performance of the model. The tests examine:

- Whether the level of insolvencies predicted by the model is in line with historic experience. The testing for this incorporated the identification and allocation of insolvencies according to D&B's data practices as well as additional years of insolvency experience since Experian last reviewed the model.
- The predictiveness of the model i.e. how well it distinguishes between entities that become insolvent and those that do not.The key statistical measure here is the 'Gini coefficient' though in testing we have used other measures in addition.

1.3.5. D&B have found that the scorecards are over or under-predicting the level of insolvencies, at least to an extent. In particular, D&B's analysis using the data practices referred to above suggests Scorecard 1 (used for many of the largest employers) has been under-predicting insolvencies. Adjusting the coefficients for the variables so the scorecard predicts a level of insolvencies in line with historic experience eliminates this problem. We expect this to mean increased levies for larger employers, with corresponding decreases for some smaller entities and not-for-profits. We regard the case for recalibration as very strong since otherwise smaller entities and not-for-profits would be subsidising the largest employers. For that reason we use scores on this basis as our 'baseline' scores – these are shown in the portal under the 'latest scores' tab.

1.3.6. The predictiveness of seven of the eight scorecards is good and the remaining scorecard (Scorecard 6 for group companies filing small company accounts) is satisfactory, so there is no performance-based requirement to alter them. As a result, we have not rebuilt any scorecards from scratch. We ask in section 4 whether stakeholders agree with our approach – in particular for the scorecard assessed as 'satisfactory' rather than good – where we set out why we consider a full rebuild is not necessary.

1.3.7. In addition to the statistical tests, we have also considered key concerns raised by stakeholders. These are primarily around the use of two variables:

- ***Creditor days*** – which it is argued does not work for businesses that don't use trade credit in a conventional sense. In particular, stakeholders pointed out that in such circumstances 'outlier' or extreme values were generated that did not reflect risk (rather they reflected the inappropriateness of the variable for the business in question).
- ***Mortgage age*** – which was felt by some to impose an administrative burden and potentially constrain business decisions e.g. whether to buy or rent a property, whether to re-mortgage etc.

1.3.8. Simply removing the variables negatively affects model performance. So we investigated alternative variables, particularly other measures of liquidity. For mortgage age, we propose replacing the variable with one comparing levels of cash and current liabilities (a variable already used on one of the other scorecards). For creditor days, we could not identify an appropriate replacement variable without negatively affecting scorecard performance. We have therefore capped the variable at 60 days (removing the risk of outlier or extreme values). For regulated financial institutions – where it is clear the variable has no relevance – we propose applying a neutral value meaning it will have no impact on the score generated.

1.3.9. These changes marginally improve model performance. We are also proposing some further technical changes[1] for three scorecards we reviewed which improve model reliability.

1.3.10. The changes that we are proposing to the scorecards are relatively limited – reflecting both generally good performance and the limited level of concerns raised by stakeholders. In section 4 we seek feedback on the approach that we have taken to developing the model – and in particular whether there are further issues that we should explore.

1.4. Credit ratings

1.4.1. We have reviewed the use of credit ratings and the S&P Credit Model (a proprietary credit scoring model used for unrated financial services entities). Credit ratings remain an effective tool and their use should continue. Scores are highly predictive, and are used in the scoring of many large levy payers - raising around £100 million of levy.

1.4.2. By contrast, the S&P credit model has proved to be of more limited benefit. A substantial recalibration (of 2 credit rating notches) has been required for one of the two models to ensure the results it produces remain consistent with credit ratings. It also offers limited value for money. Only 70 companies are scored on it, raising very limited sums in relation to the cost.

1.4.3. We propose to end the use of the credit model for scoring after March 2020.

1.5. Impact assessment

1.5.1. This consultation is focussed on the methodology for assessing employer insolvency risk. Individual scheme levies for 2021/22 onwards will also depend on other elements of the levy framework, on which we will consult in 2020, as well as changes to individual scheme data. To assess impacts of the proposed changes to the insolvency model we have therefore assumed no other changes in policy and an aim of collecting the same amount in total as was collected in 2019/20 (using scheme data submitted for the 2019/20 levy year and insolvency risk data as at 31 October 2019).

1.5.2. It is important to note that there are substantial gaps in data - notably self-submitted information - which we expect will be filled in the next few months and will change this analysis. These changes may be significant for some schemes. The global impact analysis we present here must, accordingly, be read in that context as illustrating a likely direction of travel rather than a final assessment of impacts: the key message for now is

[1] Moving to logarithmically transforming all variables on Scorecard 1, rather than transforming some but not others, and for Scorecards 6 & 7 capping a variable for extreme outliers.

to encourage schemes to engage with the new D&B consultation model at an individual level to ensure D&B have all the data they need to make an appropriate assessment.

1.5.3. With this caveat, currently we see just under two-fifths of employers remain on the same levy band. For seven of the eight scorecards, more employers experience an improvement in levy band than see a worsening in levy band. By contrast Scorecard 1, used for many larger employers, sees more companies with a worsening in score. The proportion seeing an improvement in score is likely to rise as data gaps are filled.

1.5.4. In terms of levy impact, on the basis set out in 1.5.1, a third of schemes see a similar amount of levy with almost a half of schemes seeing a lower levy. One in five of schemes see an increase in particular schemes with employers on scorecard 1. Currently, seven per cent seeing an increase of over 50 per cent – although some of these increases will reflect Experian having self-submitted data D&B don't yet have.

1.6. Action for stakeholders and next steps

1.6.1. We strongly encourage stakeholders to review their scores on the new portal and check that the information D&B hold is up to date and accurate – to provide any self-submitted data to D&B and to raise any issues or concerns with D&B. Doing so will help us ensure scores are appropriate when they are used in invoices.

1.6.2. Stakeholders are also asked to provide feedback (through this consultation) on our newly launched services and proposals for change to the insolvency risk model.

1.6.3. The portal supports this consultation showing scores on the basis being consulted on (the consultation model) and the baseline version for comparison.

1.6.4. Our consultation runs to 11 February. In addition to welcoming consultation responses by email, we have also made available two forms of online response – a short version which we estimate should take no longer than 10-15 minutes to complete, and a full version. We hope stakeholders find this a step forward in making our consultations easy to respond to.

1.6.5. We plan to use scores provided by D&B from end April 2020 in the 2021/22 levy (i.e. levy invoices issued in 2021 would be based on the mean of insolvency risk scores calculated over the 12 months of the 2020/21 financial year). This is in line with our business as usual approach – which smooths the impact of new accounts being filed (there is a peak in filing in the summer and early autumn of each year).

1.6.6. However, our final approach to timing will depend on the responses we receive to this consultation – for example whether additional development of customer services or scoring is needed.

2. Our new insolvency risk services, with D&B

2.1. Introduction

2.1.1. In April 2019, we set out our strategic objectives for the years 2019 through to 2022. A key priority within the plan is to improve the way we offer support to our levy payers and in our engagement with stakeholders. This section explains how we are taking the opportunity of the move of insolvency risk services to D&B to achieve this. It sets out the changes we have made and the new services we have introduced. We are seeking feedback through this consultation to help shape future development.

2.2. Our insolvency risk services procurement

2.2.1. A significant part of the risk-based levy is driven by an insolvency risk score assigned to most sponsoring employers of schemes. The statistical model used to calculate these scores is known as the PPF-specific model.

2.2.2. Experian currently operate the PPF-specific model and associated services (customer service and a web portal) on behalf of the PPF, and have done since its inception in the 2015/16 levy year. The contract term for services offered by Experian was initially three years, up to and including the 2017/18 levy year, with the option to extend by a further three years. This option was exercised and the contract will now run to its maximum length – ending in 2021. Successor arrangements to ensure continued service from 2021 had to be procured.

2.2.3. In procuring a service from 2021 onward, our aim was to ensure that we were able to build on the success of the PPF-specific model, rather than starting from scratch. We were therefore looking for a partner with the expertise and capability to assess and develop our existing approach; and who could also help modernise services (supporting our strategic priorities) in particular by building new web services.

2.2.4. D&B were the successful bidder in the tender and the new contract engaging them to work on behalf of the PPF was signed in January 2019.

Pension Protection Score Portal

2.2.5. We are launching alongside this consultation a beta version of a new insolvency risk portal where schemes and employers can view the insolvency risk scores produced by D&B and the data used in calculations. We continue to receive positive feedback in relation to the PPF/Experian web portal, and the new portal largely replicates existing functionality. However, we have designed the new portal around the user (as opposed to being built around specific schemes or employers). We have also taken on board feedback from users of the existing portal and used this to generate new functionality that will enhance the user experience.

2.2.6. Perhaps the key change is an entirely new look and feel. We redesigned our corporate website in early 2019 to improve the accessibility, and presentation, of information and the new design principles have been mirrored in the portal. We have also brought the portal onto the PPF domain – ppf.co.uk. – meaning we have been able to embed the portal alongside the broader levy information in our website, creating a single 'go to' site for levy payers and advisers. This should make it much easier to access the range of different kinds of information stakeholders can need.

2.2.7. An area of functionality that has undergone significant review surrounds login and access. A user should be able to access the information they need to in one online session - the current portal requires users accessing employer information to log in and out to access different employers. With this in mind, we have created a fully user centred journey throughout the portal. Users will be created using information from the Pension Regulator's Exchange database, migrated from the Experian portal or through self-service functionality – based on an email address as the username. Once an account is created, users will be able to gain access to scheme or employer information through simple processes and build a portfolio of schemes and / or employers in a dashboard style home page.

2.2.8. Access levels will remain as they are in the existing Experian portal – trustee, delegate and employer:

Trustee access	This access is determined by a scheme's annual return to the Pensions Regulator. Trustees listed within a scheme return will be automatically set up with a user account that has access to the scheme(s) they are trustee of. Trustee access allows the user to view all employers associated with the scheme, their scores and their underlying data. Functionality will also allow users with trustee access to grant 'delegate access' to other users – for example, a scheme administrator or actuary.
Delegate access	This access is granted by the scheme trustee using functionality within the portal. Users that have delegate access to scheme information in the current Experian portal will be migrated to the new portal. Delegate access allows a user to view all employers associated with the scheme, their scores and their underlying data. This access level does not allow users to grant access to other users. This level of access can be requested through the portal by a user – trustees of the scheme will receive an email notification if an access request has been received.
Employer access	This level of access allows a user to view the scores, and underlying data, of an individual employer. Access to an individual employer is gained through a series of 'data tests' that ensure a user should

have access to the information. There are three core pieces of information required to access employer information:

- **Employer identification** – either: companies house number; charities commission number; or DUNS number
- **PSR** - the PSR number of the scheme the employer contributes to
- **Total net assets -** this is the total net asset figure that appears in the employer's latest accounts.

2.2.9. The company report layout for each employer allows users to explore the various scores available to you – recent, mean and consultation. These three score types have specific functions that aim to improve awareness of how scores are generated and focusses on the data used for calculation.

Recent scores	During consultation, this will show monthly scores generated by the baseline model retrospectively from April 2019. All underlying employer summaries, underlying data used for scoring, and group reports – where applicable – will be available as well. Once live scoring commences under D&B calculations – expected to be from April 2020 – the recent scores section will let you explore scores in a levy year before a mean score has been published. Scores will start in April of each year and plot weekly on a graph until the month end score has been calculated. The month end score will be the final plot on the graph while weekly scoring will continue for the following month.
Mean scores	Every year when mean scores are published, the underlying 12 monthly scores and final mean score will move across to this section of the company report page. Functionality will allow users to view the monthly scores, company information and underlying data used in calculations. Mean scores calculated by D&B will not be available until summer 2021 so will not be visible on the portal until publication.
Consultation scores	Both the baseline and consultation model scores will be plotted on a graph, side by side during the consultation period. Employer summaries, underlying data used for scoring, and group reports – where applicable - under the consultation model will also be shown. The baseline model score is coloured in blue and is referred to as the 'live score', the consultation model score is coloured in green and referred to as the 'consultation score'. You can toggle each score on or off by clicking on the graph key titles to better visualise score changes between the two models.

2.2.10. We have built a new 'WhatIf' tool which is fully online. The tool allows users to interact with data used for scoring and identify the impact changes to financial data would make to monthly scores across scorecards one to eight. Scorecard allocation parameters have been introduced which inform users – upon changing financial data – if the data would allow the employer to be scored on the particular scorecard. We have also worked to reduce the amount of on screen information presented to people using WhatIf functionality – this information is limited to only the variables applicable to the scorecard being tested. New functionality has been introduced that allows users to generate a parental score on group scorecards to see how changes to financial data of a group or parent company would impact the resulting insolvency risk score.

2.2.11. The portal is being released as BETA - the 'beta' label means you're looking at the first version of a new service or web page and is a standard phase for new or redesigned digital services. All the necessary functionality is present to allow you to view and explore our proposed approach to insolvency risk scoring we are consulting on. However, during the beta phase, further elements of functionality will be developed and services are continually tested (there may be some bugs in the system that couldn't be identified in testing before launch). We are also encouraging users to give us feedback on the portal to inform the final, live service.

2.2.12. Functionality we will continue to develop or will explore throughout consultation and into the next levy year includes:

Bulk downloads	Functionality will enable users to download employer score and financial information in spreadsheet format.
How to guides	Interactive demonstrations of core functionality within the system.
Scorecard analyser	We are investigating ways to help users identify what drives score change. The WhatIf tool allows the impact of user defined change to be explored, but does not necessarily give insight into why live scores are changing on a monthly basis. We expect this functionality to complement the WhatIf tool, and allow users to understand the levy better.
User management delegation	Scheme trustees currently have user management rights to allow users delegate access to scheme employer scores and data. Authorising requests and granting access is the responsibility of the trustee. We are exploring ways that user management control could be passed onto another user – for example, a scheme administrator.
Alerts	As with the current Experian portal, we will introduce notifications when scores or levy bands change for employers.

Consultation question: are there any specific improvements you can think of that would help make our new portal more user friendly or helpful?

2.3. Accessing the portal

2.3.1. Trustees and other existing users of the Experian portal with access to scheme information will be pre-loaded with user details and access to the schemes they currently hold. Pre-loaded users will receive a registration email welcoming them to the PPF Score Portal. These e-mails will be sent in batches in the days following the publication of this document. Embedded in the registration email will be a link to a registration page within the portal – here you will be able to create a password and complete security information used if you ever have to reset your password. Once this registration is complete, you will be able to login in with the credentials you have setup and explore the portal.

2.3.2. For users who have accessed single employer information only in the Experian portal, you will need to self-register your user account. This is a straightforward process – users can simply click 'register' from the portal login screen, and follow the on screen steps to create an account. The first time you login, a welcome message will display – use the link in the welcome message to request access to scheme or employer information. The 'home' section displays a portfolio of schemes and / or employers you have access too – once access has been granted.

2.4. Customer support on insolvency risk queries

2.4.1. We aim to make resolving queries on insolvency risk matters as quick and easy as possible. To support this we have introduced improvements to our corporate website (see section below) and have introduced a single helpline number to direct callers to the correct team be it the PPF, D&B or Experian.

2.4.2. The new portal also introduces new ways to resolve queries. Portal users will for the first time have the option of webchat. Webchat offers live online chat functionality with a member of the customer services team and is only accessible after portal login which means that no additional security questions will need to be answered.

2.4.3. We have also introduced online query forms within the help and support section of the D&B portal where users can submit queries directly from the portal. Online query submissions will be picked up by the customer service team who will reply either via email or telephone within 5 business days.

Consultation question: if you have used our customer support services, do you have any feedback?

2.4.4. We will continuously monitor the quality of the customer service offerings by both PPF and D&B to ensure accuracy and quality remain at the forefront of our service.

2.5. Data and engagement

2.5.1. D&B will collect data in order to calculate score as Experian have previously done - albeit with some differences in approach (see 2.6.1). Whilst D&B don't have the benefit of the long history of engagement with you that Experian have, we have done what we can to help (including transferring mortgage certificates and working to compare scores). It is very important that, before live scoring takes place, you check that D&B are using accurate information and in particular if you previously self-submitted accounts to Experian you provide these to D&B as well. Unfortunately it is not possible for us to share self-submitted accounts data with D&B so we appreciate your co-operation in providing this information directly to ensure it reaches them securely.

2.5.2. If you are having difficulty accessing the score portal you should contact the D&B customer support team.

2.6. Why might a score be different on the new portal to the figures shown on the Experian portal?

2.6.1. Approaches to data collection, matching and corporate linkages are different between D&B and Experian. In addition, scorecards have been recalibrated to ensure that the number of insolvencies each scorecard predicts is consistent with experience, and to ensure that the contribution of each variable remains appropriate.

2.6.2. Further information on these differences in relation to data and the approach we take to calibrating scorecards – which may lead to differences in score – is set out in Section 4 of this paper. If you contact D&B they will be able to explain to you what causes differences in score for a company, and why data is treated in the way that it is.

2.7. Making the PPF website a better resource for customers

2.7.1. Our new corporate website – ppf.co.uk – was launched in early 2019 to offer a more modern looking, intuitive user experience. We are working, over time, to develop it as a hub for levy services for our customers.

2.7.2. Further developments have been released throughout 2019, with a new online policy and application form for levy payment plans. More recently - in November – we introduced a revised structure for levy information which focusses more on actions throughout the levy years and how each year interacts with the next. We have also worked to better highlight which customer service teams are best placed to answer queries on each individual page where the online information provided doesn't answer the question in hand.

2.7.3. The latest functionality, which has been released with this consultation, is the ability to respond to consultations using simple online forms. There are two versions. The 'full' version will include all the questions we are asking in consultation. There is the facility to save responses as questions are worked through. This generates an email link that can be forwarded to others enabling a wide group to collaborate on the production of a response. We expect many stakeholders will find this a valuable option particularly where input is needed across an organisation or a range of stakeholders.

2.7.4. The second version is a 'quick' version – here respondents will find summaries of key proposals and offered the opportunity to give their views. It is designed to only take 10 to 15 minutes to complete. Our hope with this version is that it helps us hear the views of a much wider range of levy payers or stakeholders – particularly those who may not previously have had the time to respond to our consultations in full.

2.7.5. We will continue to engage our service users and develop our online offering over time. Areas we are considering include enabling a wider range of forms and certificates to be submitted online and introducing tools that help estimate future levy bills. We would welcome views on the changes we have introduced and what further developments would be helpful.

2.8. New PPF functionality to support the invoicing process

2.8.1. In response to feedback received, we are also introducing changes to better support levy payers during invoicing. By the end of this financial year we will have introduced:

- Electronic invoice receipting - sending out an email when a levy invoice has been paid; and
- Functionality to issue copy invoices electronically alongside statements of accounts and payment reminders. This is a frequent request from finance teams and - although a relatively small change - we hope automatically issuing invoices in this way will be of benefit to levy payers.

In both cases, for data protection reasons, we will send information to the scheme contact listed in a scheme's annual return to the Pensions Regulator.

2.8.2. We are also investigating how we can best implement an electronic invoicing process. This would be a valuable service introduction, but needs to undergo a full feasibility study before we can identify a suitable solution.

Consultation question: are there improvements you can think of that would help make our support services more user friendly or helpful?

2.9. Your views matter

Each year, we conduct a perception audit survey which looks to gauge how we are perceived by those involved in the levy. We do however understand that a set of specific questions once a year doesn't gauge live issues or frustrations that occur throughout your interactions with us. We are keen to introduce more regular opportunities for feedback and will continue to engage stakeholders with the perception survey. We will also aim to increase forum participation, target information to those it is relevant to and offer the opportunity for feedback. Customer service satisfaction surveys have been introduced across all mediums of contact in our customer service teams, which allow stakeholders to share their views. This valuable feedback enables us to monitor and change as necessary to ensure our customer service offering is considered excellent.

3. Context for review of our insolvency risk methodology

3.1. Introduction

3.1.1. The legislation which covers the role and powers of the PPF requires all eligible schemes to pay the PPF levy – which is an important and valued source of funding for us. We are required to consult if any 'factors or levy rates' are different from the previous year. In practice we consult annually on our methodology with additional consultations as necessary – including in circumstances such as here where we are setting an approach with the aim that it will remain broadly the same for a number of years.

3.1.2. Legislation limits us in the type of factors we can use to calculate the levy and we need to ensure that at least 80 per cent of the total levy we expect to collect (the levy estimate) is from the risk-based levy. The balance of the levy is raised through a scheme-based levy which all schemes pay regardless of their funding position.

3.1.3. When we consult on a single year's rules we normally start the consultation around September and conclude it (including publishing the final rules for the following year) in December (as we have just done for 2020/21).

3.2. Levy development since 2012/13

3.2.1. Since levy year 2012/13 we have aimed to maintain the key elements of the levy calculation over a three year period.

3.2.2. The use of longer periods has allowed us to implement changes in particular factors in each period. In the first extended period we introduced the smoothing of assets and liabilities and investment risk assessment. In the second we started using the PPF-specific model to assess insolvency risk. In the third we refined the PPF-specific model and introduced additional insolvency risk assessment methods (e.g. credit ratings). We have received broad stakeholder support for maintaining stability unless there are strong evidence-based reasons for making changes.

3.2.3. As a result of holding rules constant during multi-year periods, changes in individual scheme levies have been driven by changes in the risk schemes pose to the PPF. This has been due to changes in either the insolvency risk assessment for scheme employers or the extent of scheme underfunding (including taking account of any changes in the investment risk of the assets schemes hold).

3.2.4. A feature of our multi-year approach has been that the smoothing of asset and liability values over a five year period helps to ensure that short term impacts (on either asset or liability values) do not have an excessive impact on levy calculations.

3.3. Our approach from 2021/22

3.3.1. Our current multi-year period ends in levy year 2020/21 (we expect invoices for this year to be issued from September 2020). We published the rules for the 2020/21 year on 16 December 2019. For 2021/22 and later years we will start to use D&B generated insolvency risk scores. The 2021/22 levies will be based on insolvency scores generated from the end of April 2020. Consulting on our approach to insolvency risk is therefore our first priority and the focus of this consultation.

3.3.2. Consultations on other aspects of our levy methodology will follow during 2020.

3.3.3. As with our approach to insolvency risk, we believe that stakeholders value stability across longer periods as well as within them, where possible. We will therefore want to be confident that any proposals for change have a strong evidence base and represent significant improvement on the existing arrangements.

3.3.4. TPR are planning to consult on their revised defined benefit funding code and the information requirements. We will consider our treatment of asset and liability values alongside this and continue to work closely with them.

3.3.5. In the past we have considered whether any changes were appropriate for Levy Bands and the associated Levy Rates.

3.3.6. Please let us know if there are specific aspects of the levy calculations that you consider should be reviewed/changed during the course of 2020, and your reasons. We include a question on this within section 6 along with the planned dates for additional consultations.

3.3.7. When we set out our proposals for 2021/22 they will include our Estimate which will take account of our funding strategy and will provide the basis for the Levy Scaling Factor that we set.

3.3.8. Our aim will be to maintain stability of these key elements of the levy calculation over a period of several years, though there are limited circumstances in which we would consider making changes within a multi-year period. These circumstances include where it is necessary to do so to remain within the legislative requirements of the Pensions Act 2004 or where our funding position is seriously affected by wider economic or other factors.

4. Insolvency risk modelling

4.1. Introduction

4.1.1. Reflecting the good performance of the PPF-specific model, the starting point for the development work done with D&B has been the existing model. Below we set out the work done to:

4.1.2. Construct a replica of the model and test that, for the same inputs it produces the same outputs;

- Understand data differences that could affect the scores produced by the replica model;
- Test the performance of the model – in terms of whether the levels of insolvencies predicted are consistent with our experience and of the model's level of predictiveness;
- Adjust the model where predicted levels of insolvency are out of line with actual experience;
- Evaluate the case for changes to the model – particularly in response to stakeholder feedback;
- Consider the future use of credit ratings and the S&P credit model.

4.2. Construction of a replica of the PPF-specific Model

4.2.1. The first modelling task that D&B carried out was to construct a replica of the PPF-specific model and test that it produced similar outputs, in the absence of known differences. The replica model was constructed based on our published Levy Rules for 2019/20, which set out the basis for calculation of the levy. Scores generated were then compared with those actually obtained from the existing model. It was confirmed that when the same data inputs are used there are negligible differences.

4.2.2. This was done first by using data supplied by Experian, and then using data sourced by D&B – and before any changes were made to align model outputs with the actual level of insolvencies (recalibration – explained below at 4.6) or to alter the model in response to stakeholder feedback. Results are shown in appendix 2 of the technical appendix.

4.3. Data collection differences

4.3.1. As with any credit scoring company, D&B collects financial information for very large numbers of business using a standardised data capture process. D&B typically adjusts some of the financial data it captures into a 'standardised' or 'normalised' format using a 'rules-based' approach. This 'business as usual' approach will form the basis of data collection that we specify in our Levy Rules – subject to changes required for the purposes of the PPF insolvency risk model. Data is captured manually from the sets of accounts. We have included a list of D&B definitions in Appendix 4 of the technical appendices.

4.3.2. Differences in data collection methodology between Experian and D&B can have an impact on scores. Based on investigation carried out by D&B and the PPF the main four reasons found for differences between Experian and D&B are the level of standardization of data collected, corporate linkages, the treatment of zeros and unknowns, and voluntary provision of data.

4.3.3. With respect to data standardisation, Experian collects data exactly as presented on the face of the accounts while D&B reclassifies some line items, using supplementary information from e.g. the notes to the accounts. This approach is carried out in a rules-based way with the aim of achieving consistency across all companies, particularly where there are a range of possible treatments for an accounting item. For example, if the notes to the accounts show that 'Debtors' as reported in the balance sheet includes the line item 'Derivative Financial Instruments' D&B will classify the latter as marketable securities which subsequently feed into 'Other Assets'. Neither approach is right or wrong, but D&B believes their approach supports greater consistency comparing large volumes of companies. There are a very small number of cases where differences are significant and further investigation will be undertaken.

4.3.4. A second difference in approach relates to the identification, and where necessary, construction of financial information on the ultimate parent company for an employer. D&B uses company filings on company shareholder changes to identify corporate linkages, whereas Experian collects data on corporate linkages as reported in the accounts. We consider that both approaches are reasonable, and see advantages in terms of timeliness of information and reliance on a statutory report for the use of company filings. That said, interpreting ownership information may be complex (for example a company can have different share classes with different rights) and we would encourage stakeholders to check that they are satisfied the information held by D&B is correct.

4.3.5. Related to this, where accounts information on an ultimate parent is unavailable, D&B and Experian produce a consolidation based on available information. D&B produce a consolidation based on all UK businesses owned by the ultimate parent, whereas Experian do not necessarily identify all UK subsidiaries where ultimate ownership is common but there is not a common intermediate UK parent for these UK subsidiaries. We consider that it is preferable to use all the information available, though we would note that neither approach is a perfect substitute for using the actual accounts of the ultimate parent – and would encourage stakeholders to voluntarily provide ultimate parent accounts to ensure the most appropriate score can be generated.

4.3.6. In relation to missing data, Experian when capturing the data does not differentiate between a value of zero or an unknown. Experian does not make this differentiation because companies supplying data may in the annual report leave data blank (creating an unknown) when a value is zero, or put in a zero when the number is in fact unknown or rolled into an over-arching broader balance sheet item. When modelling how a variable affects insolvency risk Experian has therefore modelled the insolvency risk of companies reporting in their accounts a value of zero or unknown together. As a result companies which are reporting in their accounts a value of zero or an unknown receive the same score.

4.3.7. Stakeholders have in the past voiced their concerns about the current approach, arguing that a 'true' zero should be treated differently from an unknown. D&B considers that it is possible to distinguish the two with confidence. As part of the model rebuild we propose therefore to differentiate between zeros and 'unknowns' for scoring purposes.

4.3.8. Since the introduction of a PPF-specific insolvency risk model, the Levy Rules have allowed for the voluntary provision of data for scoring purposes. Where stakeholders have provided accounts to Experian we have not been able to carry this data over to D&B. While we have generally endeavoured to make the transition straightforward by transferring data on stakeholders' behalf, we need to respect confidentiality undertakings given in respect of some self-submitted data. Accordingly stakeholders requiring D&B to take into consideration self-submitted accounts will need to resubmit this to D&B.

4.3.9. Generally, voluntary data must be submitted a month prior to a score measurement date in order for it to be guaranteed to be used in that score. However, we propose that data submitted by 30 April 2020 will be taken into account in scores for 30 April 2020, if necessary by a retrospective adjustment. This is to provide additional time for stakeholders to ensure data is up to date as we move over to our new provider – however we strongly advise early provision of accounts as this will enable stakeholders to obtain certainty about their score.

4.3.10. In previous years, we have restricted movement back on to the small accounts scorecards once companies voluntarily chose to provide full accounts information (in addition to small accounts information captured from Companies House). This is intended to prevent annual consideration of which of full or small accounts provides the more favourable result. For 2021/22, with the change in provider, we consider that it would be appropriate to provide an opportunity for stakeholders to review the provision of additional information. So for this year, we intend to place companies on the scorecard implied by their data, though we expect to introduce a rule in future years that requires a consistent approach.

Consultation Question: Do you have any comments in relation to the data changes made?

Consultation question: Do you agree with the approach we propose to filing full/small accounts?

4.4. Objectives for review of the PPF-specific model

4.4.1. This section gives a brief overview of the success criteria agreed with D&B for the insolvency risk scoring methodology starting in levy year 2021/22. These are largely unchanged since the construction of the original models though we have reflected stakeholder input about not inappropriately driving business behaviour) and avoiding the levy methodology creating administrative burdens.

Predictiveness
It is important to the credibility of the PPF levy that we are able to demonstrate that the model is predictive. Predictiveness has been measured primarily by the Gini coefficient.

Stability
Levy payers prize stability in their levy calculations and these are significantly driven by the credit risk scores generated by the model. We have therefore reviewed the score 'shift' as a result of model migration.

Coverage
The model should be built on and score the highest proportion of the PPF universe possible. In maximising the coverage of employers that we are able to calculate a score for, rather than relying on scheme, industry or PPF average scores, financials are collected from a number of sources in addition to those filed at Companies House and the Charity Commission[2].

Resilience to manipulation
It is important that the model is resistant to entities manipulating data to improve their credit score with little or no impact on the actual likelihood of insolvency, as this could reduce the predictiveness of the model over time. Ease of manipulation should therefore be a (negative) factor in assessing variables used in the model.

Equally, it is undesirable for the model to inappropriately influence business decisions, for example by discouraging refinancing activity that would actually reduce risk.

Transparency
An advantage of the bespoke approach used currently is that stakeholders are able to understand the way in which their score has been calculated. In considering any developments the impact (positive or negative) on the ability of customers to understand what is determining their score is assessed.

Best practice
All developments and / or proposals should be in line with best practice expectations.

[2] It should be noted that in creating the model we use only Companies House data, due to limitations in historic data from other sources

Benefit

The existing model is broadly considered to perform well by the PPF and many of our customers. On this basis, we look for evidence of a significant (as opposed to marginal) improvement in order to progress potential changes. Stakeholder feedback has been an important consideration identifying developments benefitting levy payers.

4.5. Performance Testing

4.5.1. Consistent with best practice, the performance of the insolvency risk scoring methodology applied for levy purposes has traditionally been measured by the Gini Coefficient. Expressed as a percentage, a 100% score would indicate that a model is capable of perfectly identifying in advance which of a given population would survive a certain period. Conversely a score of 0% would indicate that a model has no more predictive power than assigning random probabilities to the population.

4.5.2. D&B has been tasked to recreate the current model and calculate a Gini Coefficient for each scorecard. A 60% score or higher would indicate strong model performance, a 50% score or higher would indicate good model performance, and a 40% score or higher would indicate satisfactory model performance. For all but one scorecard model performance over the period 2008-2018 remained strong or good, consistent with what was observed over the period 2007-2015 (see also table below).

4.5.3. The performance of Scorecard 6, the scorecard for group members filing small accounts (SC06) was satisfactory (with a Gini Coefficient of 43.3%) compared to good at the start of the triennium. This performance level is close to that observed for the 2nd Triennium model and which resulted in a rebuild. However, in assessing the performance of this scorecard it is important to note that the distribution across levy bands of employers scored on this scorecard across is relatively concentrated. When credit quality is more concentrated this results by default in a lower Gini coefficient. The ability to generate a more favourable Gini coefficient is also affected by the more limited financial information available for this group. As a result, we consider rebuilding might lead to a higher Gini for the modelling data that (as for the third triennium) was then not sustained in practice – meaning a significant change in scores without a practical improvement in predictiveness.

4.5.4. Taking all of the above into consideration we are therefore comfortable with performance of the current models.

Table 4.1: Gini Coefficient by Scorecard - Experian and Replica models

No	Scorecard	Gini Coefficient 2nd Triennium Experian Model 2007-2015	Gini Coefficient 3rd Triennium Experian Model 2007-2015	Gini Coefficient 3rd Triennium Experian Replica Model 2008-2018
SC01	Non-subsidiaries £30m+ / large subsidiaries		57.8%	59.0%
SC02	Non-subsidiaries < £30m		59.7%	54.4%
SC03	Group Members Full Accs > £50m	69.8%	66.3%	69.0%
SC04	Group Members Full Accs £10-£50m	75.5%	76.3%	64.3%
SC05	Group Members Full Accs < £10m	71.7%	60.0%	60.7%
SC06	Group Members Small Accounts	42.4%	55.0%	43.3%
SC07	Independent Small Accounts	34.1%	55.8%	52.8%
SC08	Not for Profit	47.3%	51.3%	57.8%

Strong > 60%, Good > 50 – 60%, Satisfactory > 40 – 50%, Unsatisfactory < 40%

Consultation Question: Do you have any comments on the analysis we have done?

4.6. Calibration of the Model

4.6.1. Alongside testing predictiveness, D&B have assessed whether scorecards are producing an estimated number of insolvencies in line with our actual experience on a scorecard by scorecard basis (as identified by D&B using their data collection and allocation practices). This is to ensure that each scorecard is calibrated correctly – i.e. not systematically overstating or understating risk.

4.6.2. Consistent with best practice the scorecards have been recalibrated to ensure that the number of predicted insolvencies is consistent with the number of actually observed insolvencies. This is a process we would, in any case, have needed to carry out had Experian continued to be responsible for scoring. It is regarded as essential in order to ensure fairness between companies assessed on different scorecards – since otherwise a company on a scorecard overstating risk is assessed more harshly than one on a scorecard that is understating risk – and may therefore pay a larger share of the levy. This recalibration provides the 'baseline scores' against which we assess our proposals for change (the 'consultation model'). Baseline scores are presented in the portal as 'live scores'.

4.6.3. The table following sets out the results of D&B's comparison of actual and expected insolvencies:

Scorecard number	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Level of insolvencies – compared to experience (% of actual insolvencies against expected)	130%	114%	62%	65%	76%	70%	114%	87%

4.6.4. For the third triennium, to ensure that the number of predicted insolvencies was consistent with the number of actually observed insolvencies Experian (following their last review of the model) applied an adjustment factor to the insolvency scores generated by SC06, SC07 and SC08. The remaining scorecards were rebuilt and therefore 'trained' from the outset on the observed number of insolvencies at the point of the review. Stakeholder feedback has been that the application of a large adjustment factor to model outputs implies the model is not working well in predicting the number of insolvencies, a key objective.

4.6.5. Reflecting on this approach in producing scores for our baseline model, D&B have – instead of using a single factor - recalibrated the coefficients applying to each variable. This means that the relative contributions of each variable are adjusted in the light of the observed insolvency experience (reflecting that data from new insolvencies may mean certain variables become more or less significant as predictors of insolvency risk and / or the relationship between variables changes). Compared to the single factor recalibration this approach optimises model performance and reduces the risk that a fuller rebuild is necessary. It also means that in comparing proposed changes for the consultation model the impact of the change being consulted on can be seen in isolation.

4.6.6. Scores shown on the new portal (as 'latest scores'), and used in our impact analysis as the baseline model, are calculated on the basis of these recalibrated scores. Below we set out the changes that we are proposing from this baseline model.

Consultation question; do you have any comments on the recalibration carried out?

4.7. Proposed changes to respond to stakeholder feedback

4.7.1. In the interests of stability and avoiding unnecessary disruption to a set of scorecards that are now widely understood, we have started from the principle that remodelling is only necessary if compelling evidence was found to argue for a particular scorecard to be rebuilt. Compelling evidence being performance considerations and/or in response to stakeholder suggestions. Two variables frequently commented on by stakeholders are mortgage age and creditor days.

4.7.2. A number of group scorecards include a variable measuring the age of the most recent mortgage or secured charge. While the evidence suggests that this variable is predictive – when assessed across our population – we identified a number of circumstances in which it was clear the presence of a mortgage was highly unlikely to be indicative of insolvency risk. This lead to the development of certificates to allow for certain mortgages to be excluded. In relation to this variable stakeholders have highlighted the potential for the measure to influence business decisions (e.g. on refinancing) and the burdens of certification for mortgage exclusions.

4.7.3. We therefore took the opportunity of this review to investigate the removal of the mortgage age variable for all group scorecards. On balance, we decided not simply to remove it because it resulted in a reduction of the Gini by 3% to 6% and would leave two of the three scorecards containing only four variables.

4.7.4. Instead, we propose to replace the mortgage age variable with another variable associated with liquidity risk, namely the ratio Cash to Current Liabilities (i.e. the proportion of the liabilities falling due over the next year that is represented by cash held[3]). Doing so retains good scorecard performance.

4.7.5. The variable Creditors Days Sales Based features on a number of scorecards (1, 2 and 5) and has frequently been commented by stakeholders – who suggest that the variable does not work for businesses that don't use trade credit in a conventional sense. This is a particular issue for financial institutions (some of which we propose to transfer from the S&P credit model to scoring on the PPF-specific model) but affects some other companies too.

4.7.6. We considered simply removing the variable or identifying a replacement. However, removal reduced the predictiveness of the model and we weren't able to identify a suitable replacement.

4.7.7. When we considered the variable further, we noted that there are extreme outliers for this variable – with around 5 per cent of the cases with a known value for creditor days this value can become greater than 365 days, implying trade creditors as of the end of the year were greater than total sales throughout the year, and around 10 per cent of values above 60 days. For values up to 60 days we saw a clear increase in insolvency risk for higher values of creditor days. Evidence of a relationship was lacking beyond 60 days - given the limited number of data points beyond 60 days and the lower level of confidence associated with this. We propose therefore to reduce the cap to 60 days and to apply a neutral value for regulated financial institutions (removing the impact of this variable from those entities that we know do not have trade creditors). These changes marginally improve model performance.

[3] Strictly, we use a logarithmic transformation of cash to current liabilities, as this reflects the relationship with insolvency risk better and is consistent with the transformation applied to this variable in existing scorecards

4.7.8. For Scorecard 1 we are also proposing to introduce a log transformation of the variable 'cash by current liabilities' to make the variable less dominant. Following the change all variables on Scorecard 1 will be subject to a log transformation

4.7.9. A further small change we propose, consistent with the approach taken for Creditors Days Sales Based is to introduce a cap at a level of 100% for the variable Change in Total Assets on the scorecard for independent small entities (SC07). Impact on the Gini from the introduction of the cap is minimal. The reason for doing this is more qualitative – reflecting a judgement that for the kind of businesses that sponsor DB pension schemes, growth at this level is extremely rare and more likely to reflect restructuring than organic growth. As a result, we consider it better not to extrapolate the relationship between the variable and insolvency risk beyond a doubling in assets.

4.7.10. Likewise we are proposing a cap at a level of the 95% percentile for the variable Log Net Worth on Scorecard 6 for group members filing small accounts.

4.7.11. The degree of change implied by the modifications we are making is very limited for Scorecards 6, 7 and 8. Accordingly, we believe a simplified approach to recalibration is acceptable for these scorecards. This involves using an adjustment factor, rather than re-estimating coefficients for individual variables.

Consultation question: Do you agree with the proposed change to replace the mortgage age variable with cash by liabilities?

Consultation question: Do you agree with the proposed change to cap creditor days at 60?

4.7.12. In the interests of stability and avoiding unnecessary disruption to a set of scorecards that are now widely understood we do not propose going further than the above changes e.g. a full scorecard rebuild or to reduce the number of scorecards. In principle, rebuilding might have raised performance for scorecards – although, as noted in 4.4 above, there may be limits on the practical improvement that can be obtained.

4.7.13. We have also not considered more radical changes. For example, a small number of stakeholders have commented on the cliff edges that occur when moving between scorecards. In principle this could be addressed through changes such as using a blend of two scorecards for those close to a turnover threshold. This would increase the level of change in scores, and increase complexity, and we don't consider this is warranted by the limited level of comments raising the issue.

Consultation question: Do you agree with the scope of changes that we have investigated?

Consultation question: Do you consider other changes should be investigated?

4.8. Differences in performance and scores between D&B and Experian

4.8.1. The performance of the consultation model (incorporating all the changes described above) over the period 2008-2018 was strong or good for all scorecards. All scorecards showed an improvement in their Gini coefficient, in particular the group scorecard for small accounts. (SC06).

Table 4.2: Gini Coefficient by Scorecard Replica and D&B models

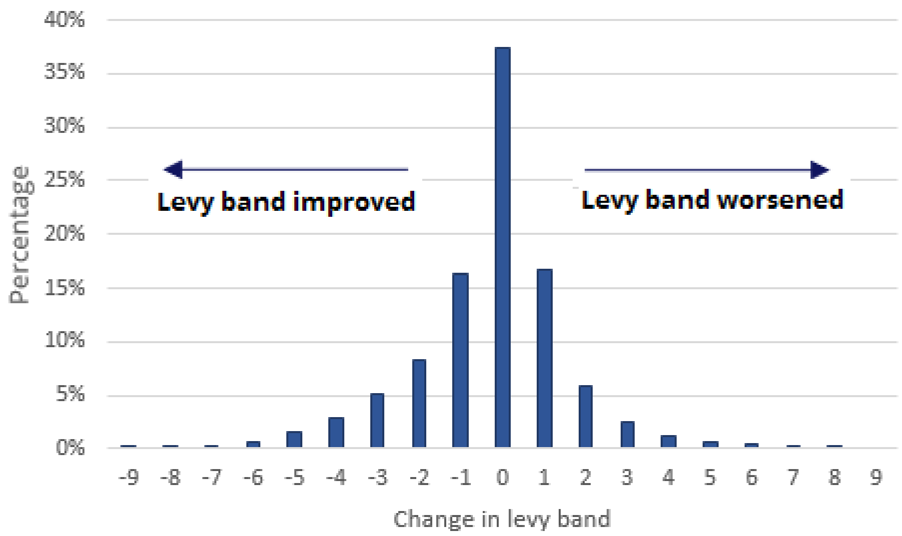
No	Scorecard	Gini Coefficient 3rd Triennium Experian Replica Model 2008-2018	Gini Coefficient D&B Model 2008-2018
SC01	Non-subsidiaries £30m+ / large subsidiaries	59.0%	63.9%
SC02	Non-subsidiaries < £30m	54.4%	54.8%
SC03	Group Members Full Accs > £50m	69.0%	73.8%
SC04	Group Members Full Accs £10-£50m	64.3%	68.2%
SC05	Group Members Full Accs < £10m	60.7%	68.1%
SC06	Group Members Small Accounts	43.3%	43.5%
SC07	Independent Small Accounts	52.8%	53.6%
SC08	Not for Profit	57.8%	57.8%

Strong > 60%, Good > 50 – 60%, Satisfactory > 40 – 50%, Unsatisfactory < 40%

4.8.2. Differences between D&B and Experian data, differences in recalibration methodology, and improvements to the scorecards can all result in levy band movement. Pictured below are the levy band changes resulting from these differences for the modelling data[4].

[4] With respect to the modelling population, only Companies House data is used. In maximising the coverage of employers that we are able to calculate a score for, rather than relying on scheme, industry or PPF average scores, financials are collected from a number of sources in addition to those filed at Companies House and the Charity Commission. Section 5, Impact analysis, considers the level of levy band change for all those employers we are able to score.

Chart 4.3: Change in levy bands D&B Model – all employers in modelling data



4.9. Credit ratings and the S&P Credit Model

4.9.1. From 2018/19 we introduced the use of selected public credit ratings, where available, to generate insolvency risk scores. Performance of the public credit ratings provided by the three Credit Rating Agencies (CRA) was considered good based on the reported Gini coefficients: S&P 93%, Fitch 95%, and Moody's 94.48%. We are therefore proposing to continue to use CRA.

4.9.2. We also introduced the S&P Credit Model, an industry specific scorecard for un-rated entities that are regulated financial service business, from 2018/19. However, we have found a number of drawbacks to the use of the model in practice – which mean that it does not offer value for money. Only a limited number of entities are scored and limited amounts invoiced. This reflects in part that we weren't able to extend its use to other regulated groups, but more significantly an increasing proportion of financial services employers have credit ratings, and a decrease in deficits among those still assessed by the model. As a result, the cost of running the S&P Credit Model is material in relation to the amount of levy invoiced. At the same time, operational factors (such as a need to recalibrate scores) add complexity and limit transparency. We therefore propose to discontinue the use of the S&P Credit Model for scoring purposes.

4.9.3. To translate public credit ratings into insolvency probabilities an analysis was performed at the time of the 3rd Triennium of the post-default experience of UK-domiciled entities classified as having defaulted by ratings agencies. This showed that 36.7 per cent of defaults led to an insolvency within 12 months, and so we use this as a conversion factor. Since that analysis we have seen 28 defaults - with 6 insolvencies in the following 12 months. Although a lower proportion than previously seen, the difference is not statistically significant[5]. We therefore propose no change to the current mapping of public credit ratings to levy bands.

Consultation Question: Do you agree that we should move companies currently scored on the S&P Credit Model to a PPF-specific model scorecard?

Consultation Question: Do you agree that we should not adjust the mapping of credit ratings to levy bands, to reflect the lower proportion of defaults seen to result in an insolvency?

[5] Assuming a ratio of insolvency to default of 36.7% the 95% confidence interval for 28 defaults is a range of 5 to 15 insolvencies

5. Impact assessment

5.1. Key themes

Below we have drawn out key themes in relation to movements in scores and levy bands. This needs to be read in the context of the expectation that results will change following the provision of self-submitted data and the correction of information held by D&B, through the period to which scores are used. Based on data available now:

- Just over a third of employers see no change in levy band, and there is a slight preponderance of improvements in band amongst those that change band. The exception to this is scorecard 1 for larger ultimate parents and the largest employers which sees scores decrease reflecting recalibration. By contrast, scores of not for profit entities are on balance improved – resulting overall in more entities in band 1.
- This pattern of movements on scorecard 1 is more concentrated than that on, for example, scorecard 3, where a change in variable means that there is wider dispersion in changes in score.
- In terms of levy amounts, a third of schemes see a similar amount of levy with almost a half of schemes seeing a lower levy. One in five of schemes see an increase, in particular schemes with employers on scorecard 1. Currently, seven per cent see an increase of over 50 per cent – although some of these increases will reflect Experian having self-submitted data D&B don't yet have.

5.2. Basis of analysis

5.2.1. The population analysed in this chapter covers all employers that have been allocated November 2019 scores by both Experian and D&B. It excludes, for example, entities which may receive scheme or industry average scores for use in the levy calculation. The population analysed accounts for over 95% of 2019/20 levy collection (where levy is allocated to employers on a pro-rata basis based on scheme membership).

5.2.2. As noted in the summary, the analysis in this chapter uses insolvency scores which are based on the most recent accounting information available at 31 October 2019. Levy impact analysis additionally uses the scheme data submitted for the 2019/20 levy year.

5.2.3. Under the existing model, these are the actual insolvency scores expected to feed into the Mean Score calculations for 2020/21 invoices and which were visible on the Experian portal from late November.

5.2.4. Under the D&B model, these are the scores calculated by D&B on the information available to them. This includes information obtained from external sources such as Companies House, and also mortgage certificate information. However, it excludes self-submitted information provided by schemes to Experian, which particularly affects a minority of schemes providing self-submitted accounts.

5.2.5. This analysis therefore provides a guide to the changes in levy bands and amounts, noting that it is impacted by the missing information. Other incremental data changes are also likely as D&B continue to develop their data sets and engage with levy payers on their scores for the first time.

5.3. Impact on levy bands

5.3.1. The following charts show the change in levy bands corresponding to:

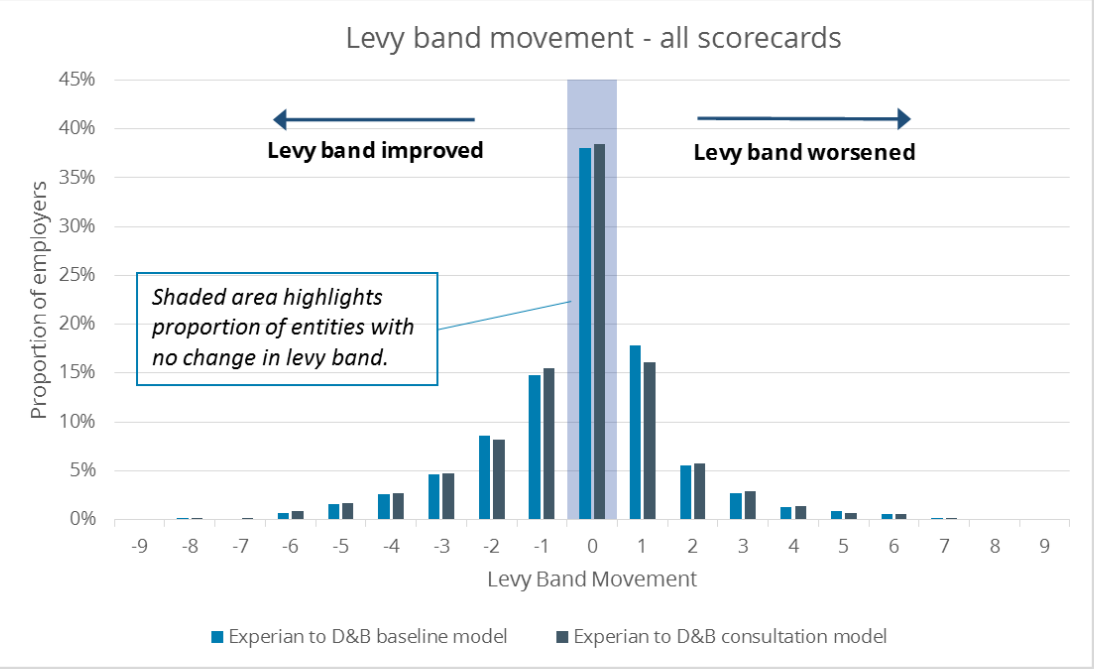
- the change from the Experian model to the D&B baseline model; and
- the change from the Experian model to the D&B consultation model.

An increase in levy band reflects an increased risk of insolvency, and (before allowing for other factors) will tend to lead to an increase in levy amount.

A decrease in levy band is shown as a negative number, reflecting a decreased risk of insolvency, and (before allowing for other factors) will tend to lead to a decrease in levy amount.

5.3.2. Firstly we consider the impact for all scorecards combined in chart 5.1 below. This covers all employers and guarantors in the population for analysis, including those who change scorecard as a result of the move from Experian to D&B and those on credit rated scorecards.

Chart 5.1: Change in levy bands – all scorecards



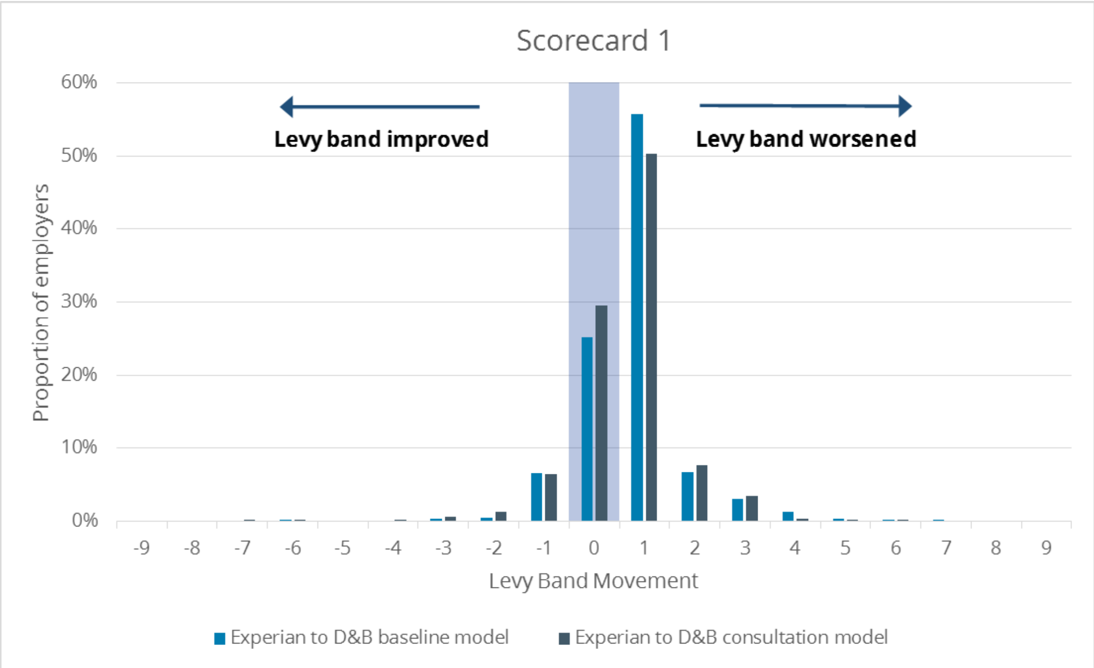
Assessed across all scorecards, 38 per cent of employers remain on the same levy band, with slightly more employers experiencing a reduction (improvement) in levy band than those with an increase (worsening) in levy band.

The change from the Experian model to the D&B baseline model has been the main cause of change in levy band. The move to the D&B consultation model has reduced the level of levy band movement slightly.

5.3.3. This analysis can be broken down by individual scorecard, considering employers and guarantors which are on the same scorecard for both Experian and D&B. We have commented on Scorecards 1 and 3 in this section, with analysis for all scorecards shown in the Technical Appendix. Scorecard 1 shows increases in levy bands due to the recalibration recognising the higher level of insolvencies, while Scorecard 3 shows how there are number of changes in scores as a result of the recalibration.

5.3.4. Chart 5.2 below shows the levy band movements for employers and guarantors allocated to Scorecard 1 (Non-Subsidiaries £30m+ and Large Subsidiaries) by both Experian and D&B.

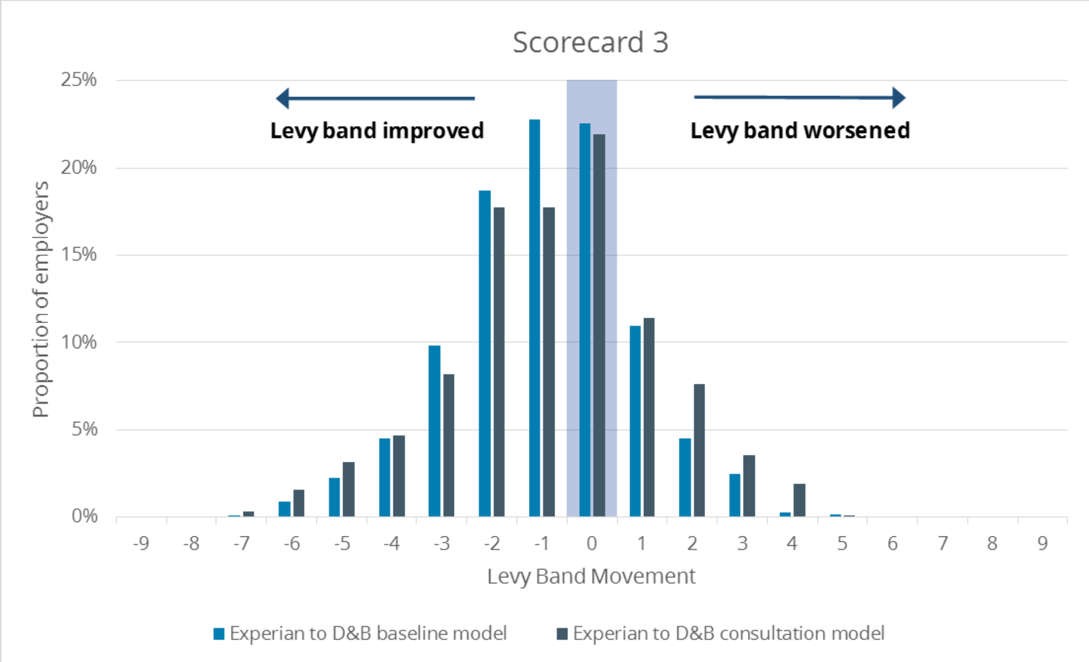
Chart 5.2: Change in levy bands – Scorecard 1



This shows that the move to the D&B baseline model serves to increase scores (and worsen the levy band) for around two-thirds of employers, consistent with the model's reflection of higher observed insolvencies for larger entities. The move to the consultation model reduces this impact somewhat but the general pattern of higher insolvency scores remains.

5.3.5. Chart 5.3 below shows the levy band movements for employers and guarantors allocated to Scorecard 3 (Group £50m+) by both Experian and D&B.

Chart 5.3: Change in levy bands – Scorecard 3

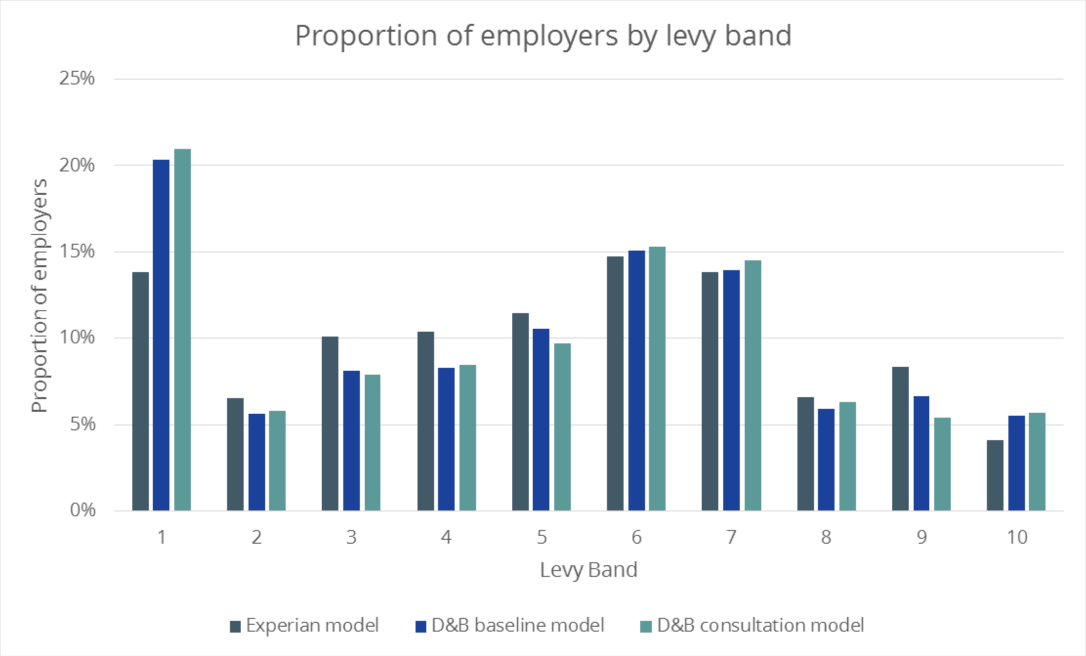


For Scorecard 3, the D&B baseline model shows the impact of the recalibration, where weightings for the variables have been adjusted to reflect the insolvencies experienced. The D&B consultation model additionally incorporates the removal of the mortgage age variable and its replacement with the log of cash by current liabilities. This results in a different shape of distribution, compared to the D&B baseline model, and an increase in scores relative to that model.

5.4. Distribution of employers by levy bands

5.4.1. Chart 5.4 below shows the proportion of employers and guarantors in each levy band under each of the models.

Chart 5.4: Distribution of levy band by model – all scorecards



The distribution has seen an increase from 14 to 21per cent of employers in levy band 1, complemented by a reduction in those in levy bands 3, 4, 5 and 9. The increase in levy band 1 is driven primarily by the reduction in Levy Bands for Scorecard 8 (Not for Profit). The change to the D&B new model results in some relatively small changes in the proportions at each levy band.

5.5. Change in levy amount

5.5.1. Levy impact analysis has been conducted using insolvency scores based on the most recent accounting information available as at 31 October 2019, and scheme data submitted for the 2019/20 levy year. In determining the impact on levy amount, we have assumed that the total amount of levy collected from the population for analysis is unchanged by the proposed move to the D&B consultation model. This is because the purpose of the consultation is to consider the change in the insolvency model and its distributional impacts in isolation. In order to achieve this we have applied an adjusted levy scaling factor to calculate the risk-based levies under the D&B models, so that the same sum is collected in total as under the current model.

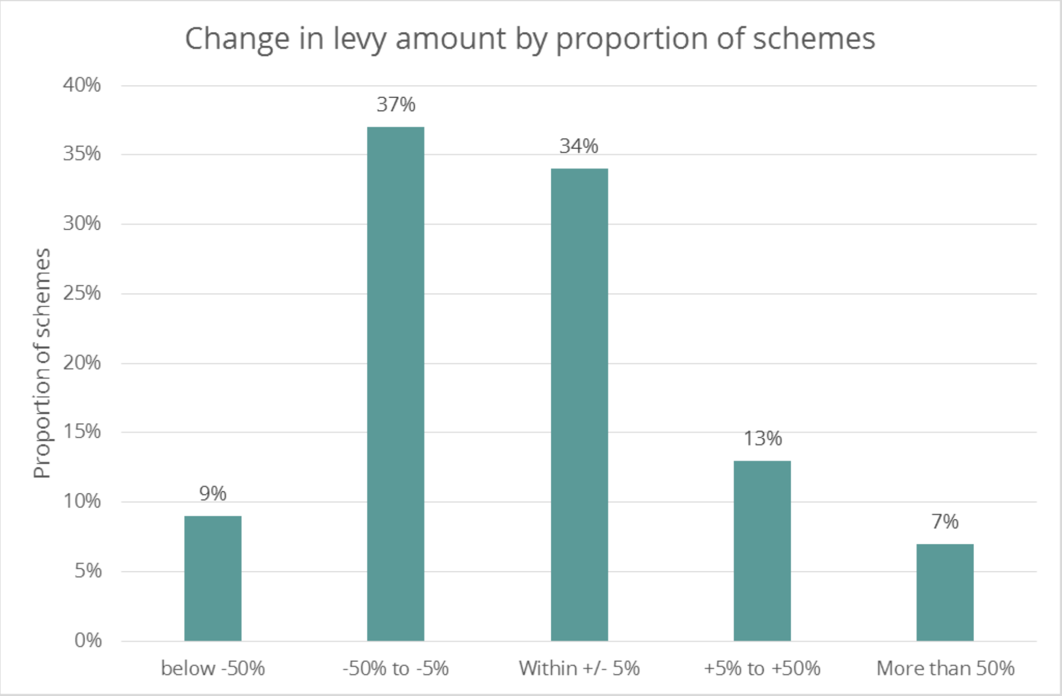
5.5.2. The total amount of levy for 2021/22 is not being considered in this consultation. In 2020 we will consult on other changes to our rules and guidance for 2021/22, and in particular the levy scaling factor which is used to calibrate the total amount of levy collected.

5.5.3. Applying the D&B consultation model with the current levy scaling factor, we see a trend of higher amounts of levy collection under the D&B consultation model, reflecting higher insolvency probabilities for schemes with larger amounts of underfunding. Consequently we have allowed for a reduction in the levy scaling factor under this model, to counteract the increase in total levy amount that would otherwise occur.

5.5.4. As a result, employers who remain in the same levy band following the move to the D&B consultation model see a reduction in levy amount under this analysis.

5.5.5. Chart 5.5 shows the analysis of employer impact by scorecard.

Chart 5.5: Change in levy amount by schemes

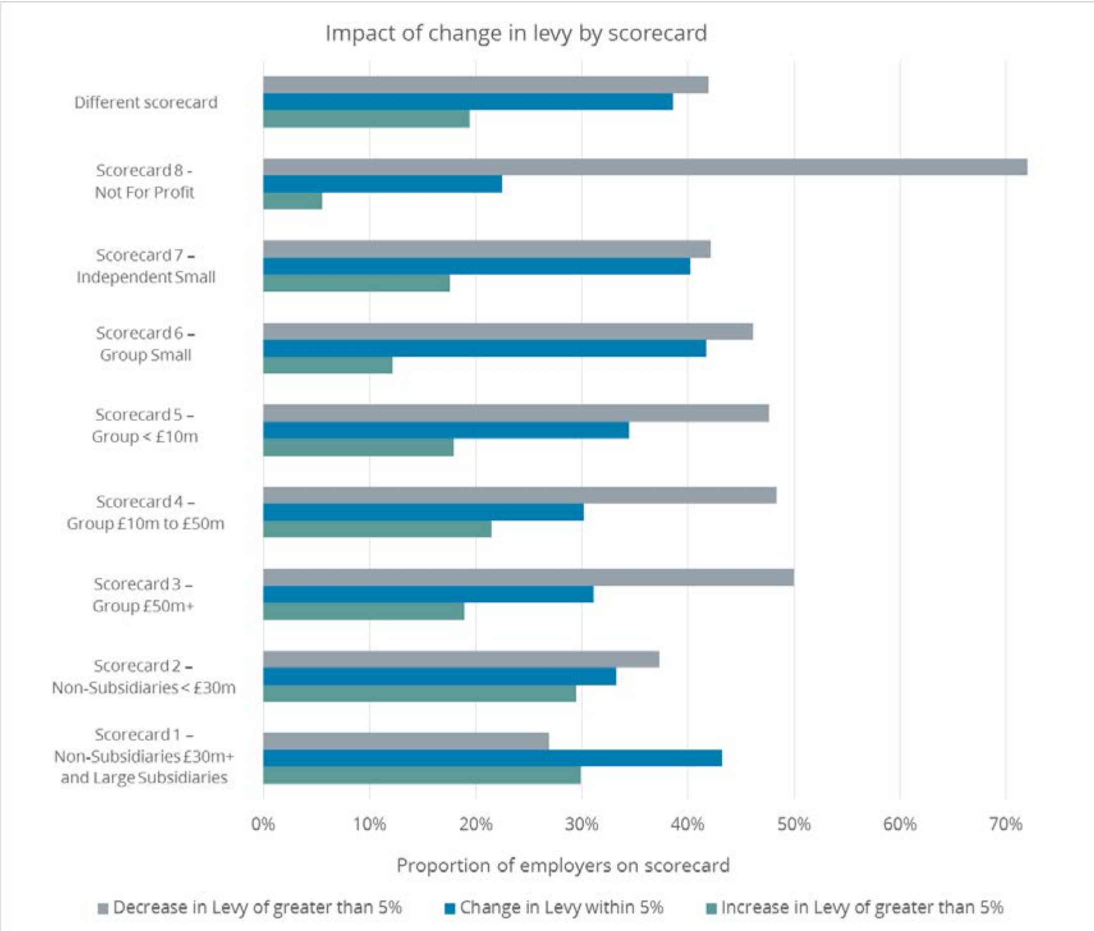


Four fifths of schemes see their levy remain the same, or fall. Around 20 per cent of schemes see an increase – with 7 per cent seeing an increase of over 50 per cent. We expect that there will be some change to this distribution – possibly significant - as self-submitted data is provided to D&B, and any other data issues are resolved, over the next few months.

5.6. Change in levy amount by scorecard

5.6.1. Although the analysis is on the basis that the total amount of levy is unchanged, we expect to see some scorecards with increased payments, and others with decreased payments. This reflects the recalibration of the different scorecards in line with experience and the proposed changes under the D&B consultation model. Chart 5.6 below shows the percentage change in levy amount for employers who remain on the same scorecard following the move to D&B. The impact for employers who change scorecard is also shown. Levy amounts are allocated to employers on a pro-rata basis based on scheme membership.

Chart 5.6: Percentage change in levy by scorecard



Individual scorecards have seen between 25 and 45 per cent of employers with less than a 5 per cent change in levy amount. Seven of the eight scorecards have seen a higher proportion of employers with decreases than increases. By contrast, Scorecard 1 has more employers with an increase than a decrease, which is consistent with the recalibration of the scorecard to reflect that it was under-predicting insolvencies. Scorecard 8 has the highest proportion of decreases, and few increases. This scorecard has a very high proportion of employers that remained on the same levy band, and therefore have seen a reduction that, in some cases, is more than 5 per cent.

5.7. Changes in scorecard

5.7.1. There are a number of cases where employers have changed scorecards. This is due to differences in data and interpretation as described in section 4.

5.7.2. Chart 5.7 below shows the proportion of employers allocated to each scorecard by Experian and D&B. The population for analysis is those employers for which both D&B and Experian have made a scorecard allocation. Scorecard 9 includes entities that are scored using public credit ratings, and those that are allocated to be scored under the S&P credit model by Experian.

Chart 5.7: Proportion of employers by scorecard

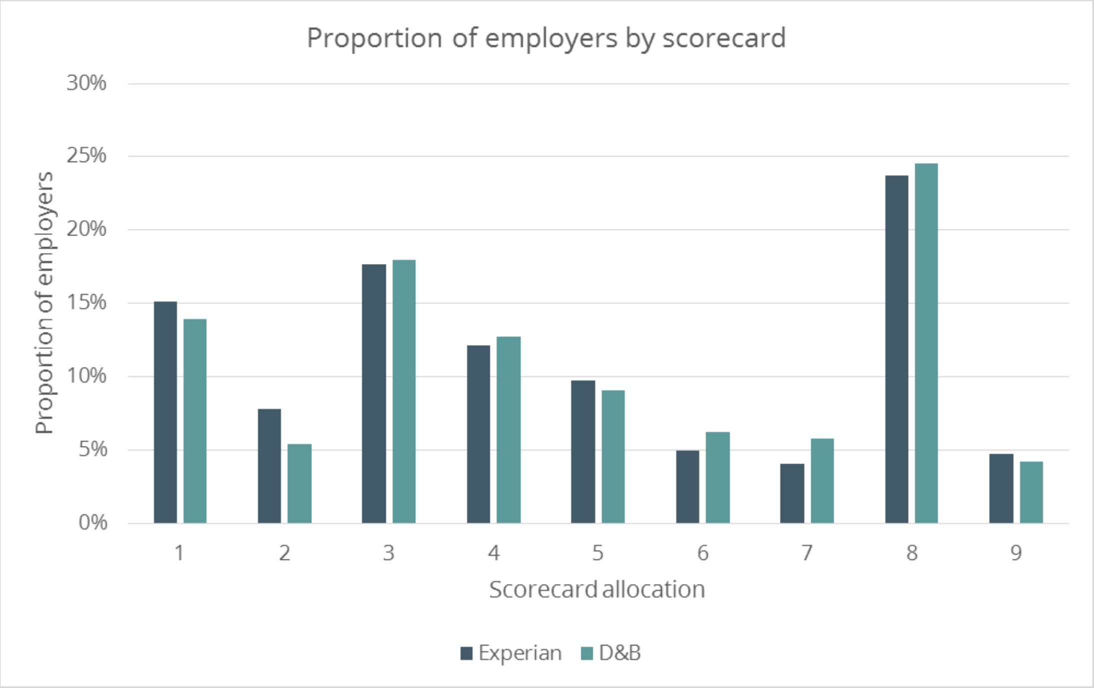


Chart 5.7 above shows a change in the distribution of employers across scorecards under the D&B allocation versus the Experian allocation. Reasons for this include:

- Differences in turnover figures leading to a movement in turnover banding.
- Differences in identification of not-for-profit entities.
- Differences in identification of parent companies
- The transfer of entities from the S&P Credit Model to an alternative scorecard.
- Differences in classification of accounts as small or full accounts.

5.8. S&P Credit Model

5.8.1. As discussed in section 4.9 we propose to discontinue the use of the S&P Credit Model for scoring purposes.

5.8.2. In analysing the impact of this change, we note that some companies may choose to self-submit account information which is not currently available to D&B for use in insolvency scoring. We therefore expect that there will be some changes from the current analysis. Further information is shown in the Technical Appendix.

5.8.3. Our analysis shows that 45% of employers are likely to move to scorecard 1: Non-Subsidiaries £30m+ and Large Subsidiaries, with other employers spread between the different scorecards.

5.8.4. The analysis of levy band shows that the proportion in levy band 1 increases from a third on the current Experian model to just over half of all employers on the D&B consultation model. We also see a significant reduction to those in levy band 2. We currently observe a small number of employers in levy bands 7 and above. These are predominantly due to data issues that we expect to be resolved through data received from schemes during the consultation period.

6. Next steps, action required and key dates

6.1. Next steps

6.1.1. As set out in section 3 the focus of this consultation is on insolvency risk. We will consult on other aspects of our levy methodology over the course of 2020. We expect this to be in two phases:

- Consultation on areas for review within the levy framework for the 2021/22 levy year (such as our treatment of asset and liability values in our calculation of underfunding risk).
- Consultation on the draft levy rules for the 2021/22. The draft rules will be designed to reflect the conclusions of consultations on insolvency risk and other areas of our framework.

Consultation question: are there any areas you think we should review in the levy framework for 2021/22?

6.2. Portal user accounts

6.2.1. Trustees and other existing users of the Experian portal with access to scheme information will be pre-loaded onto the D&B portal with user details and access to the schemes they currently hold on the Experian portal. Pre-loaded users will receive a registration email welcoming them to the PPF Score Portal. Embedded in this email will be a link to a registration page within the portal. You'll need to follow this link to create a password and complete security information, which will be used if you ever have to reset your password. Once this registration is complete, you will be able to login in to and explore the D&B portal with the credentials you have set up.

6.2.2. The portal has over 15,000 users, which creates a significant administrative task when creating new user accounts. To ensure the roll out of registration emails is done in a controlled but effective manner, we will send the registration emails over three working days from 19 – 23 December.

- Scheme trustees will be sent their registration emails between 19 and 20 December.
- Users who are not trustees, but are existing registered users of the Experian portal will be sent their registration emails by 24 December.

6.2.3. If you are an existing user and do not receive a registration email by 3 January, please firstly check your junk or spam folder in case your device or provider has incorrectly filed it.

6.2.4. For users who have accessed single employer information only in the Experian portal, you will need to self-register your user account. This is a straightforward process –

users can simply click 'register' from the portal login screen, and follow the on screen steps to create an account. The first time you login, a welcome message will display – use the link in the welcome message to request access to scheme or employer information. The 'home' section displays a portfolio of schemes and / or employers you have access too – once access has been granted.

6.2.5. If you require technical help with the portal, you can contact our customer service team. Details can be found at https://www.ppf.co.uk/levy-payers

6.3. Action required

6.3.1. We are encouraging employers and schemes to engage with their scores, in order to ensure that any difference in scores does not reflect incorrect information.

6.3.2. We have not been able to migrate accounts data to the D&B model or portal for employers who self-submit information to Experian. For those who fall into this category, you will need to submit your data ready for scoring in April 2020 to ensure your live scores are accurate.

We appreciate that this will create an administrative burden on some schemes and employers. To alleviate this we propose to change the deadline for self-submitted data in April 2020. Usually, the deadline for data submissions is the end of March to be used in scoring for April. Scoring data will be backdated for the month of April and used in live scoring.

6.4. Key dates

6.4.1. The following table sets out the key dates in the coming year and our intended schedule for consultation phases:

Item	Key dates and times
Closing date for the consultation on insolvency risk methodology for 2021/22 onward	11 February 2020
Scoring under the new methodology starts for 2021/22 levy calculations	April 2020
PPF consultation on non-model policy for the 2021/22 levy year	Expected mid 2020
PPF consultation on the Determination and levy rules for the 2021/22 levy year	Autumn 2020
Publication of the 2021/22 levy year policy statement and final levy rules	By April 2021

6.4.2. Our approach to final mean scores each levy year takes the average of twelve monthly scores, ensuring that any individual monthly score spikes are smoothed and do not cause volatility in levy invoices year on year. We believe that this approach should be continued for the 2021/22 levy year and live scoring on the D&B PPF-specific model will start in April 2020.

Consultation question: do you agree with our approach to start live monthly scoring with D&B in April 2020?

7. Consultation Arrangements

7.1. Consultation on changes to our insolvency scoring methodology from 2021/22

7.1.1. The consultation runs from 18 December 2019 to 5pm on 11 February. Please ensure your response reaches us by the deadline. Submissions can be made online using one of two online forms:

www.ppf.co.uk/levy-payers/help-shape-our-rules

7.1.2. Please state whether you are responding as an individual or representing the views of an organisation. If you are responding on behalf of an organisation please make it clear who the organisation represents and, where applicable, how the views of members were assembled.

7.1.3. Under the Freedom of Information Act 2000 (FoIA), all information contained in the response, including personal information, may be subject to publication or disclosure. By providing personal data for the purpose of the public consultation exercise, it is understood that a respondent consents to its disclosure and publication.

7.1.4. If this is not the case, the respondent should limit any personal information which is provided, or remove it completely. If a respondent requests that the information given in response to the consultation be kept confidential, this will only be possible if it is consistent with FoIA obligations and general law on this issue. Further information can be found on the GOV.UK website:

https://www.gov.uk/make-a-freedom-of-information-request

7.1.5. A summary of responses and the Board's final confirmed policy will be published on the PPF website at:

https://www.ppf.co.uk/

7.1.6. If for any reason you experience technical issues with our online submission forms, you can respond by email or post, using the details below.

Email:	consultation@ppf.co.uk
Postal address:	Chris Collins Chief Policy Advisor Pension Protection Fund Renaissance 12 Dingwall Road Croydon, Surrey CR0 2NA

7.2. Comments on the Consultation Process

7.2.1. The consultation is being conducted in line with the Cabinet Office's Consultation Principles:

https://www.gov.uk/government/publications/consultation-principles-guidance

The Board would welcome feedback on the consultation process. If you have any comments, please contact:

Trish O'Donnell
Stakeholder Manager
Pension Protection Fund
Renaissance
12 Dingwall Road
Croydon, Surrey
CR0 2NA
Email: corporateaffairs@ppf.co.uk