Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem

PRISM IMPACT REVIEW

Revised Prudential Impact Models

February 2020

Contents

Executive Summary

The Central Bank's Mission is to serve the public interest by safeguarding monetary and financial stability and by working to ensure that the financial system operates in the best interests of domestic and European consumers of financial services and the wider economy.

Based on our Mission, Mandate, and Vision, the Central Bank's Strategic Plan 2019-2021[1] sets out our future priorities, activities and desired outcomes to deliver on our Statutory Objectives. Five strategic themes have been identified that are critical to the successful delivery of our mandate. The strategic theme relating to "Strengthening Resilience" sets out the Central Bank's commitment to ensuring that the financial system is better able to withstand external shocks and future crises. The strategic theme "Strengthening Consumer Protection" identifies our focus on the protection of the best interests of consumers and enhancement of trust and confidence in the financial system. Delivering on these strategic themes under the Central Bank's mandate enables the effective supervision of financial service providers and markets to ensure they are well managed and financially sound.

The prudential risk of a financial service provider is determined by assessing its "impact" - that is the degree of damage that would be caused to consumers and/or the economy were it to fail. This is combined with an evaluation of the "probability" or likelihood of its failure at any given time to give an overall supervisory risk rating for the firm. Impact is therefore a cornerstone of the Central Bank's risk-based Supervisory Framework, known as the 'Probability Risk and Impact SysteM' (PRISM).

To deliver on these strategic themes, the Central Bank is currently reviewing the PRISM Supervisory Framework. This review sets out to ensure that the Central Bank continues to deliver a robust, risk-based and outcomes-focused approach to supervision. There are two key parts to the review of the PRISM Supervisory Framework: the PRISM Impact Review ('the Review') and a Review of Supervisory Minimum Engagement. Work is also underway to enhance the articulation of our Supervisory Risk Appetite.

This paper focuses on that part of the Review which has examined the prudential impact models in the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors.

The revised prudential impact models represent an enhancement of those models, as the majority include new metrics which better represent the actual impact of financial service provider failure. Previously, the key driver of impact in these prudential impact models was size. However, analysis demonstrated that size is generally not the sole determinant of how

[1] The Central Bank's "Strategic Plan 2019 - 2021" is available on the Central Bank's website at this link.

impactful a financial service provider is. As a result, new metrics were introduced to many of the impact models to capture the various dimensions of impact such as substitutability, connectivity, the scale and spread of financial service provider failure, etc. Within each prudential impact model, the financial service providers are ranked in terms of their impact: High, Medium High, Medium Low and Low.

In general, the higher the impact of a financial service provider, the more intensely it is supervised. Risk-based supervision means that we have a lower appetite for significant issues at higher impact financial service providers relative to issues in those deemed lower impact. This principle guides the Central Bank as it prioritises its structured work programmes and deploys its finite supervisory resources.

Importantly however, the Central Bank does not operate a zero failure regime. In a market-based system the failure and exit of firms is to be expected. Through our approach, we seek to ensure that such failures, when they occur, are orderly and well-managed, that consumers are appropriately protected, and that the financial system is not disrupted.

Purpose of the Paper

1. This paper is for information purposes.

We consider it appropriate to communicate with industry when we are making modifications to our risk-based PRISM Supervisory Framework and this paper provides updated information as to how the Central Bank is approaching its supervisory activities and allocating internal resources. This paper aims to inform our stakeholders of our thinking and the approach taken towards the revisions to prudential impact models.

This paper provides information on the revised prudential impact models in the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors. It explains how the Central Bank's approach towards the prudential impact models is changing since the publication of "PRISM Explained[2]". It is planned to revise "PRISM Explained" once further work relating to the PRISM Supervisory Framework is concluded.

2. The Central Bank will write to the financial service providers included in the affected prudential impact models.

The letters will provide information about the individual financial service providers' impact categorisation. The financial service providers in the sectors included in the Review will be supervised according to their impact categorisation as determined by the revised prudential impact models in 2020. We will communicate initially with insurers and reinsurers plus credit unions in the coming weeks, to be followed by those financial service providers in the Asset Management, Fund Service Providers, Market Infrastructure plus the Payments and e-Money sectors in the first half of 2020.

3. The Central Bank may request additional data.

During the Review, data was collected from financial service providers to inform the Central Bank's analysis and to determine the different dimensions of impact. As this data will be required on an ongoing basis to facilitate the revised prudential impact models, some financial service providers in the Asset Management, Fund Service Providers, Market Infrastructure plus Payments and e-Money sectors will be requested to refresh previously provided data on a quarterly basis.

[2] "PRISM Explained" is available on the Central Bank's website at this link. It was last updated in 2016. It outlines how we implement risk-based supervision using the PRISM Supervisory Framework and includes our approach to determining impact.

Introduction to Risk Based Supervision

The Central Bank has a statutory mandate to deliver proper and effective regulation of financial service providers and markets, whilst ensuring that the best interests of consumers of financial services are protected.

The Central Bank's Supervisory Framework, PRISM, was introduced in 2011, to ensure a consistent approach towards the prudential supervision of financial service providers in a systematic risk-based manner. It provides a structured means of assessing different types of risk, using a common framework.

The risk of a financial service provider is determined by assessing the impact or the capacity of the financial service provider to cause harm to domestic and European consumers, investors, the financial system and/or the economy were it to fail, combined with an evaluation of the "probability risk", which represents the possibility that any given financial service provider could fail at a given time.

There have been many changes since the Central Bank introduced risk-based supervision in 2011. Financial services have expanded, some risks have evolved and many policy and legislative reforms have been introduced to strengthen financial regulation, for example Solvency II Directive; MiFID II Directive and the revised Payment Services Directive. As a result there has been an increase in the availability of data to inform our supervisory approach.

In order to ensure that the PRISM Supervisory Framework keeps pace with these changes and remains up to date, we are reviewing impact, Supervisory Engagement and Supervisory Risk Appetite. The objective is to ensure that the Central Bank maintains a risk and outcomes-focussed PRISM Supervisory Framework which leverages the organisation's capabilities.

This paper focuses on impact, one of the key components of our risk-based supervisory approach.

The Review described in this paper focused on how impact is captured for various types of financial service providers in the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors.

As the focus of the Review was on potential changes to the Central Bank's PRISM Supervisory Framework, it excluded the banking sector given the supervisory role of the European Central Bank as competent authority following the commencement of the Single Supervisory Mechanism ("SSM") on 4 November 2014. Credit Institutions within the Eurozone have been categorised into "significant" and "less significant" institutions. The ECB directly supervises significant institutions (SIs) while less significant institutions (LSIs) continue to be supervised by national competent authorities (NCA), in close cooperation with the ECB. A separate SSM LSI prioritisation methodology, devised by the NCAs and the SSM, which incorporates the impact of institutions on the domestic financial system, is applied to LSIs. This SSM LSI prioritisation methodology was considered as part of this Review. It provided an important comparison during the consideration of the impact of financial service providers across the various sectors.

Impact

It is important to describe and quantify the impact of prudentially supervised financial service providers in order to inform and influence the Central Bank's PRISM Supervisory Framework. Impact determines risk tolerance and underpins supervisory engagement, including minimum engagement.

The prudential impact of a supervised financial service provider is captured using prudential impact models, which are developed for a cohort of supervised financial service providers with relatively similar business models. Within a prudential impact model, there are metrics which numerically represent different indicators of impact or different attributes or dimensions of financial service provider failure. These metrics are combined in a weighted manner to calculate the prudential impact of a supervised financial service provider.

Calculating the impact for all financial service providers in a model enables the Central Bank to rank financial service providers from the most impactful to least impactful within that sector. Ranked financial service providers are then categorised into four impact categories: High impact, Medium High impact, Medium Low impact and Low impact.

The Central Bank does not operate a zero failure regime. In a market-based system the failure and exit of firms is to be expected. Through our approach, we seek to ensure that such failures, when they occur, are orderly and well-managed, that consumers are appropriately protected, and that the financial system is not disrupted.

Evaluating the impact of prudentially supervised financial service providers informs the Central Bank as to how it should deploy its finite resources, as it seeks to minimise adverse circumstances or events arising where they will have the greatest negative impact. This means that supervision will be more intensive for a High impact financial service provider, undertaken through structured engagement plans, leading to early interventions to mitigate risks. This evaluation also shows which supervised financial service providers have the lowest potential adverse impact. Such financial service providers with lower impact are generally supervised on a sectoral basis, supported by data driven analysis and on-going monitoring. Accordingly, there is an implicit relationship between the impact categorisation of a financial services provider and the level of resources deployed by the Central Bank. This will ensure that the risks to both domestic and European financial stability and the impact on financial service provider's customers are reduced, and that failure, should it occur, can be managed.

The PRISM Impact Review

The Review examined the prudential impact models and metrics relating to the financial service providers in the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors.

Prior to the Review, there were 28 prudential impact models used to determine the impact of financial service providers across these prudential sectors, as shown in Figure 1. The Review focused on the effectiveness of these prudential impact models and on the usefulness of the metrics to represent the many dimensions of impact within these models. Throughout the Review, recognition was given to the Central Bank's prudential responsibilities to the consumers in other European countries which avail of the cross-border provision of financial services across Europe.

Overall, for the financial service providers in the aforementioned prudential sectors, the Review resulted in:

1. Revisions to the number of prudential impact models
2. Revisions to the metrics and their weightings used in many of the prudential impact models

For some sectors, analysis showed there were similarities to how impact could be described across some prudential impact models, due to the comparability of financial service providers' business models. In some cases, this resulted in merging the prudential impact models to form revised prudential impact models, as illustrated in Figure 2.

On the other hand, our examination of the appropriateness of the prudential impact models to represent the different aspects of the failure of financial service providers also suggested that in some sectors, it was optimal to split up the cohort of financial service providers represented by a single prudential impact model. This led to the establishment of new prudential impact models to recognise how the potential for harm differs depending on the type of financial services offered by various supervised financial service providers.

Figure 1: The previous 28 prudential impact models in the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors.

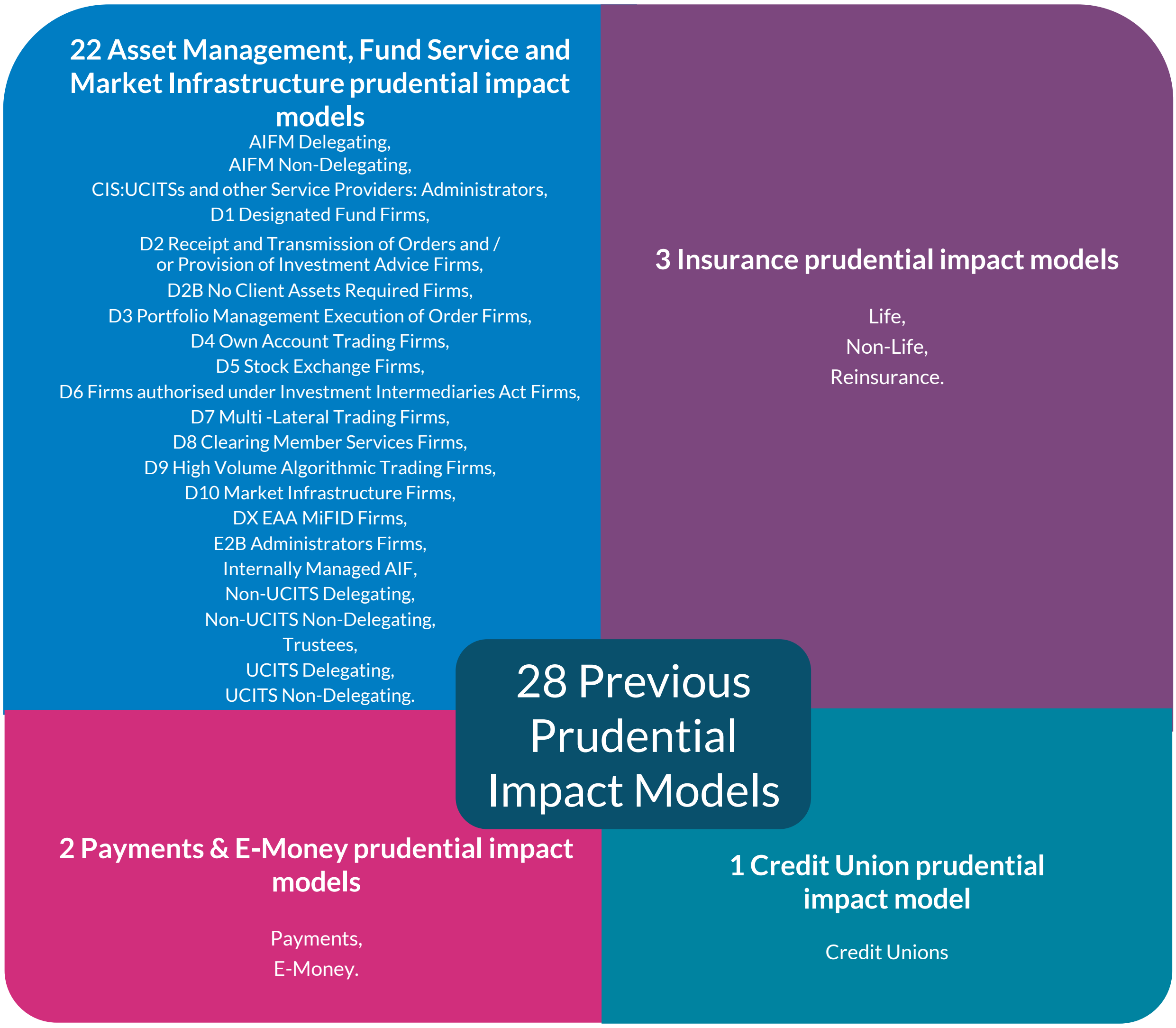
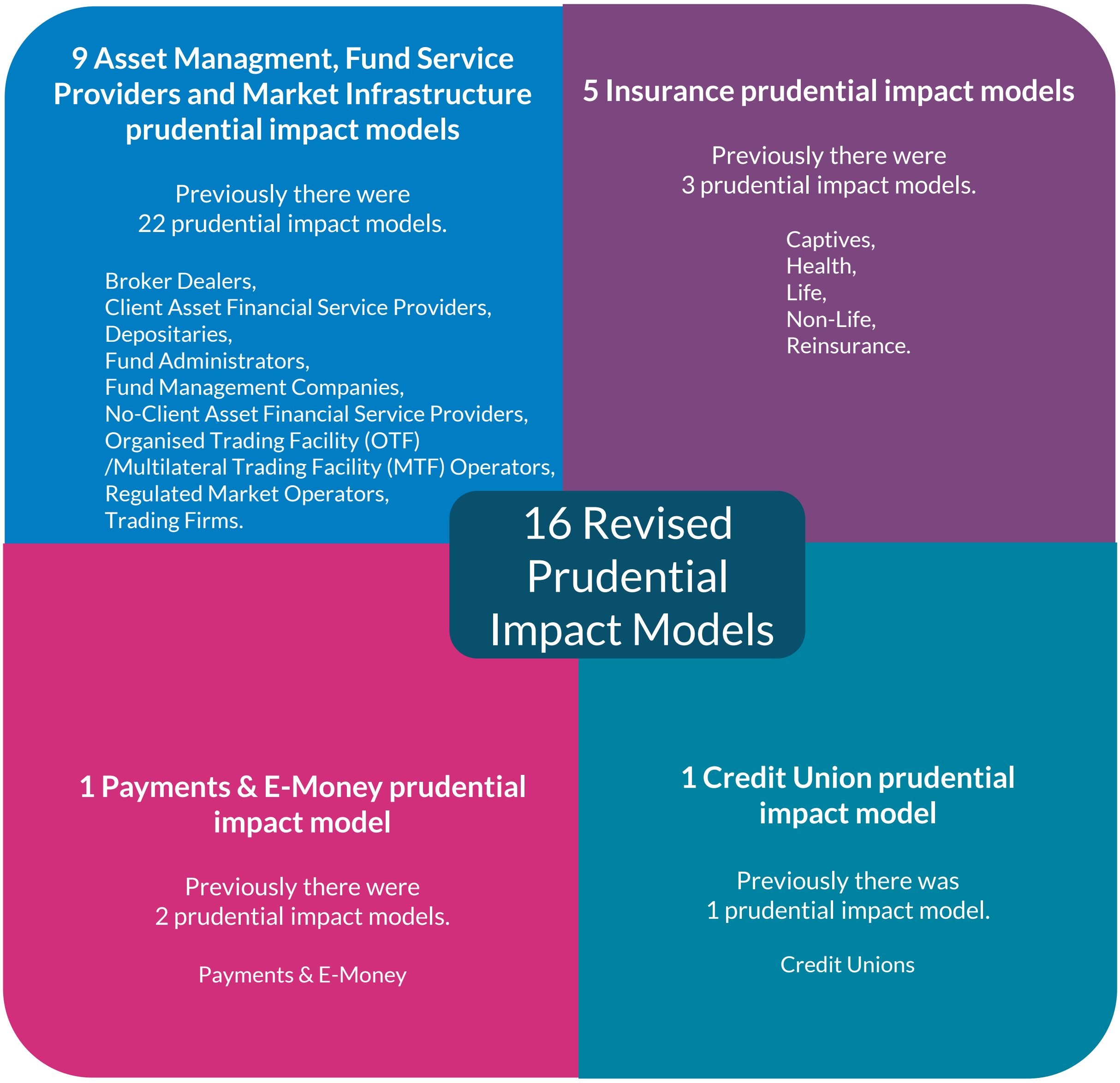


Figure 2: The 16 Revised prudential impact models in the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors.



The Review also resulted in revisions to the metrics used in the prudential impact models. Extensive research and analysis during the Review determined that changes were required to (a) the metrics capturing the impact of the supervised financial service providers; and (b) to represent different aspects of the harm that could be caused by financial service provider failure. These represent an improvement in the descriptive power of a prudential impact model with the introduction of new / enhanced metrics[3], or the removal of metrics such as;

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[3] There are no changes to the single metric in the Credit Union impact model. However, the Review resulted in revisions to its impact categorisation.

(i) In the Client Assets Financial Service Providers' prudential impact model, a metric based on 'Trading Book Size' was added to capture the complexity of a financial service provider.

(ii) In the Regulated Markets and in Organised Trading Facility (OTF)/Multilateral Trading Facility (MTF) Operators prudential impact models, a metric representing the 'Number of Members' was introduced.

(iii) In the Insurance prudential impact models a metric based on supervised financial service providers' Solvency Capital Ratio was excluded based on analysis that determined that it captures more the likelihood or Probability Risk of financial service provider failure rather than the impact.

(iv) In the Insurance Non-Life prudential impact model a metric representing the substitutability of financial service providers through the inclusion of the Market Share metric was added. It is based on data that the Central Bank has recently started to collect.

Overall, revisions to the metrics included in these prudential impact models enhanced the approach used to capture supervised financial service providers' impact. During the Review, various statistical tests, such as an assessment of the explanatory power, correlation and stability of each sector's metrics were carried out to ensure the robustness of the revised prudential impact models.

A list of the updated metrics used in the revised 16 prudential impact models following this Review are presented in Annex 1.

We now outline in more detail the work conducted during the Review and the rationale for the revisions to the prudential impact models for the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors.

i. Asset Management, Fund Service Providers and Market Infrastructure sectors

Many of the previous prudential impact models for these sectors were driven by the size of the assets under management, which remains an important driver. The review of the indicators of impact has resulted in the introduction of other elements of impact, for example, the 'Passporting' metric in the Client Assets Financial Service Providers' prudential impact model and the No- Client Assets Financial Service Providers' prudential impact model to represent the geographic spread of the impact of financial service provider failures.

Similarly other aspects of impact were represented by the inclusion of new metrics such as the 'Investor Money' metric in the Administrators prudential impact model and the 'Client Assets' metric in the Client Assets Financial Service Providers' prudential impact model and the Broker Dealer prudential impact model to represent the scale of impact caused by loss, misappropriation or temporary loss of access to client money.

Previously, there were 22 prudential impact models used to rank financial service providers according to their impact for the Asset Management, Fund Service Providers and Market Infrastructure sectors. The Review resulted in the amalgamation of prudential impact models, such that there are now nine agreed prudential impact models to inform supervision for these sectors, as listed in Table 1. This reduction is predominantly due to the consolidation of prudential impact models to capture similarities in business models.

Table 1: Nine prudential impact models in the Asset Management, Fund Service Providers and Market Infrastructure sectors

Revised Prudential Impact Models	
1	Broker Dealers
2	Client Assets Financial Service Providers
3	No-Client Assets Financial Service Providers
4	Fund Administrators
5	Depositaries
6	Fund Management Companies
7	Trading Firms
8	Regulated Market Operators
9	OTF/MTF Operators

ii. Payments and E-Money sector

A key change to the determination of impact for the Payments and e-Money sector is that the two separate prudential impact models for Payments and E-Money financial service providers have been amalgamated into one model (as seen in Table 2). Fundamentally this recognises the similarity of services provided by both Payments and e-Money financial service providers, and the similar regulatory responsibilities of such financial service providers.

The review of the metrics used to represent impact in the two prudential impact models for Payments and e-Money financial service providers resulted in the inclusion of new metrics for both types of financial service providers and the revised aggregated prudential impact model. For example, the metric, ‘User Funds Held,’ was included in the prudential impact model to represent the potential client loss dimension caused by the failure of either a Payments or e-Money financial service provider that holds user funds.

Table 2: One Payments and e-Money prudential impact model

Revised Impact Model	
1	Payments & e-Money Model

iii. Insurance sector

A number of previous metrics were excluded from the revised prudential impact models on the basis that they were essentially alternative measures of size, measured using balance sheet information and did not capture other dimensions of impact. Nonetheless, this aspect remains an important one. For example, seven of the nine metrics currently used in the Non-Life Insurance impact model were excluded. It was decided to exclude any 'Net' calculated metrics such as 'Net Technical Provisions' and 'Net Written Premiums' as these metrics would not capture all of the harm caused should a financial service provider fail due to the failure of one or more of its reinsurers. In addition, quantitative testing confirmed that certain metrics sourced from financial service providers' balance sheets were correlated, such as the 'Total Assets' metric and the 'Total Liabilities' metric. This supported not retaining both of these metrics in the revised Life Insurance prudential impact model.

Many new metrics were introduced across all Insurance models to capture various dimensions of impact. This resulted in the development of indicators of impact to capture concentration/market share in Ireland or other countries, the type of product sold and the broader potential costs of failure.

Currently, there are three prudential impact models used to reflect the three broad categories of Insurance financial service providers: Non-Life Insurance, Life Insurance and Reinsurance. During the Review, individual prudential impact models for the different Insurance business models were developed. This resulted in the creation of two additional prudential impact models for the Health Insurance and Captive Insurance financial service providers, as shown in Table 3. These provide a more meaningful representation of prudential impact as they are based on the relevant impact dimensions for each cohort of Insurance financial service providers.

Table 3: Five prudential impact models for the Insurance Sector

Revised Prudential Impact Models	
1	Non-Life
2	Life
3	Reinsurance
4	Health
5	Captives

iv. Credit Union sector

The Review concluded that the previous prudential impact model for the Credit Union sector was deemed appropriate as shown in Table 4. There are no changes to the single metric, 'Total Assets' in this prudential impact model. During the Review, it was determined that this metric is capable of capturing the impact of the failure of Credit Unions. Given the structure of Credit Union business models and balance sheets in comparison to other sectors, the inclusion of other metrics for the purposes of calculating impact; such as number of members, were largely correlated, i.e. the larger the balance sheet size, the greater the number of members generally.

Table 4: One Credit Union prudential impact model

	Revised Prudential Impact Model
1	Credit Union Model

Determination of Impact Categories

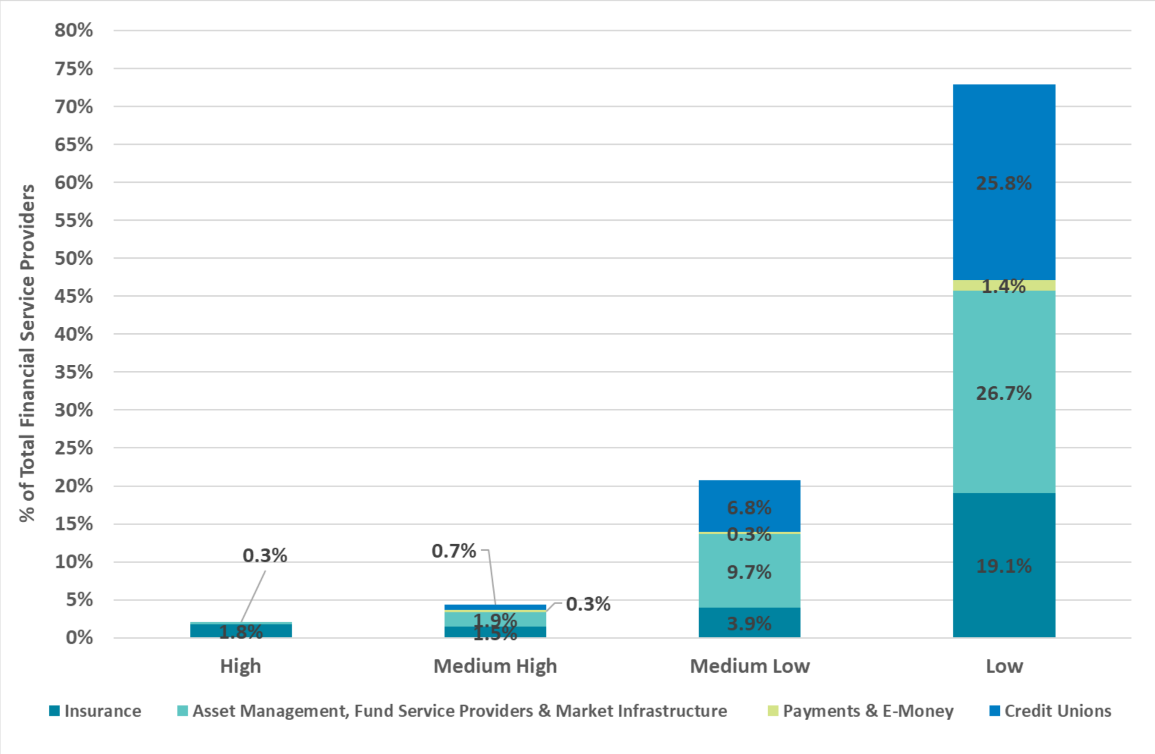
The Review incorporated a Prudential Horizontal Assessment (the Assessment), during which the relevant impact category for the financial service providers in each of the 16 prudential impact models into the four impact categories: High, Medium High, Medium Low and Low were determined, as illustrated in Figure 3. Based on the data, approximately 94% of financial service providers in the 16 prudential impact models were in the Medium Low and Low impact categories.

The Assessment involved extensive discussion and analysis of the business models, competitive landscapes and the related economic plus regulatory issues affecting the financial service providers in each of the prudential impact models. All senior management decisions made on the impact categorisation of a financial service provider were informed by cross-organisational views, including supervisors, analysts, economists, resolution and policy experts.

As part of the Review of Supervisory Minimum Engagement and Supervisory Risk Appetite, the Central Bank reached out to a number of lead international supervisors, in a bid to externally benchmark its current supervisory practices as part of its top-down analysis. These discussions considered other regulators' approach to determining the impact of financial service providers and their resultant impact categorisation. This analysis helped inform our determination of financial service provider's impact.

This Assessment has also increased the consistency of the categorisation of financial service providers across the aforementioned prudential sectors. For example, analysis was considered as to whether a financial service provider categorised as High impact in the Insurance sector was comparable to a financial service provider categorised as High impact within the Asset Management sector. As a result of the Assessment, the differences in the harm caused by the failure of a financial service provider across the various prudential impact models is better understood and reflected in the revised approach.

Figure 3: Impact Categories of financial service providers in the Asset Management, Credit Union, Fund Service Providers, Insurance, Payments and e-Money plus Market Infrastructure sectors. This Figure uses data from 2017 and 2018.



Future Developments

Now that the Central Bank has concluded its analysis of impact for the aforementioned sectors, the focus is on the necessary steps to operationalise and implement the revised prudential impact models. The analysis of the prudential impact models and metrics for these sectors was made possible due to financial service providers in some of these sectors providing additional data to the Central Bank in 2018. There is now a data initiative underway in the Central Bank to support the collection of data for any newly developed metrics, where the data is not currently available. The Central Bank will be in contact with financial service providers to refresh data for some metrics in the prudential impact models for the Asset Management, Market Infrastructure, Payments and e-Money and Fund Service Providers sectors. This data will be required on an ongoing quarterly basis to support the revised prudential impact models. It will ensure that the prudential impact models will be refreshed using the most appropriate data.

The Central Bank will also write to all financial service providers captured in the 16 revised prudential impact models to inform them of their impact category following on from the Review. We will communicate initially with insurers, reinsurers and credit unions in the coming weeks, to be followed by those financial service providers in the Asset Management, Fund Service Providers, Market Infrastructure plus Payments and e-Money sectors in the first half of 2020.

Funding Regulatory Activities/Industry Funding Levy

As communicated previously[4], the Central Bank's funding strategy is to move towards full recovery of regulatory costs from the industry in the coming years. This is based on the principle that the regulated financial service providers operating in and out of Ireland should pay the regulatory costs. The approach is based on a "user pays" principle to reduce and ultimately eliminate the taxpayer paying some of the costs of financial regulation.

The review of impact models and associated metrics will contribute towards the future consideration of the development of the Central Bank's funding strategy. While no changes are planned to levy methodologies in the 2019 levy cycle (2020 billing cycle) arising from the changes announced in this paper, the Central Bank intends to test alternative levy methodologies for future use for the Insurance, Asset Management, Fund Service Providers, Market Infrastructure plus Payment and e-Money sectors[5]. This work will be part of an ongoing cycle of continuous improvements in the years ahead. If there are any future changes to the approach used to determine the industry funding levy, this will be clearly communicated.

Conclusion

In summary, the Review resulted in changes to how impact is described and measured to enhance our approach to capturing prudential impact for certain sectors. It resulted in the incorporation of many new indicators of impact to capture other dimensions of impact. The Review has evolved how impact is measured. The appropriate impact categorisation (High, Medium High, Medium Low and Low) has also been determined for all financial service providers in the sectors under consideration. The output from the Review will be incorporated into the Central Bank's future engagement planning and financial service providers will be supervised accordingly in 2020.

[4] Information on "Funding the Cost of Financial Regulation" from 14 June 2019 is available on the Central Bank website at this link.

[5] Note that Credit Unions currently pay their levies based on total assets, irrespective of the impact category they are placed in.

Annex 1: The 16 Prudential Impact Models: Metrics

A. Metrics in the Nine Asset Management and Market Infrastructure prudential impact models

Fund Administrators prudential impact model

- Investor Money
- Deals Processed
- Number of Funds
- Market Share
- Total NAV/Assets under Administration ('AUA')

Depositaries prudential impact model

- Fiduciary-Only Assets Under Management
- Number of Funds
- Market Share
- Total Assets Under Custody

Fund Management Companies prudential impact model

- Total NAV / Assets Under Management ('AUM')
- Number of Funds
- Total IPM Assets
- Investor Money/Client Assets
- Total IPM Customers

Client Assets Financial Service Providers prudential impact model

- Client Assets
- Oversight of Client Asset Custody Arrangements
- Total Number of Clients
- Trading Book Size
- Turnover
- Passporting
- Balance Sheet Size
- Assets under Management

No-Client Assets Financial Service Providers prudential impact model

- Total Number of Clients
- Turnover
- Passporting
- Balance Sheet Size
- Assets under Management

Trading Firms prudential impact model

- Number of Clients
- Trading Book Size
- Turnover
- Number of Transactions
- Off-Balance Sheet Size
- Systemic Internaliser
- Market Memberships
- Balance Sheet Size
- Assets under Management

Broker Dealers prudential impact model

- Client Assets
- Number of Clients
- Trading Book Size
- Turnover
- Number of Transactions
- Off-Balance Sheet Size
- Systemic Internaliser
- Market Memberships
- Balance Sheet Size

Regulated Markets prudential impact model

- Turnover
- Transactions Count
- Listed MiFID Instruments
- Number of Members
- Balance Sheet Size

Organised Trading Facilities/Multilateral Trading Facilities Operators prudential impact model

- Number of Clients
- Turnover
- Transactions Count
- Listed MiFID Instruments
- Number of Members
- Balance Sheet Size

B. Metrics for the Payments & E-Money prudential impact model

Payments & e-Money prudential impact model

- Number of Transactions
- Value of Transactions
- User Funds Held
- Number of Agents/Distributors

C. Metrics for the Five Insurance prudential impact models

Non-Life Insurance prudential impact model

- Non-Technical Provision Liabilities
- Gross Technical Provisions
- Gross Written Premiums
- Market Share

Life Insurance prudential impact model

- Gross Technical Provisions
- Market Share

Captive Insurance prudential impact model

- Total Assets

Health Insurance prudential impact model

- Incurred Claims
- Gross Technical Provisions
- Risk Equalisation Scheme
- Number of Policyholders/Customers
- Market Share

Reinsurance prudential impact model

- Gross Technical Provisions
- Gross Written Premiums

D. Metric for the Credit Union prudential impact model

Credit Union prudential impact model

- Total Assets

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