

Chapter 2

Capital

2.2 Internal capital adequacy standards

Application

- 2.2.1 **G** ■ BIPRU 2.2 applies to a *BIPRU firm*.

Purpose

- 2.2.2 **G**
- (1) ■ BIPRU 2.2 sets out *guidance* on ■ GENPRU 1.2 (Adequacy of financial resources) so far as it applies to a *BIPRU firm*. In particular it sets out *guidance* on how a *firm* should carry out its *ICAAP*, as well as some factors the *appropriate regulator* will take into consideration when undertaking a *SREP*. The terms *ICAAP* and *SREP* are explained in ■ BIPRU 2.2.4 G. ■ BIPRU 2.2.41 R-■ BIPRU 2.2.43 R are *rules* that apply to a *firm* with an *IRB permission*.
 - (2) ■ BIPRU 2.2 is for the most part written on the basis that ■ GENPRU 1.2 (Adequacy of financial resources) applies to a *firm* on a solo basis. However it is still relevant when ■ GENPRU 1.2 applies on a consolidated basis. When ■ GENPRU 1.2 applies on a consolidated basis, ■ BIPRU 2.2 should be read with appropriate adjustments.

Meaning of capital

- 2.2.3 **G** For the purpose of ■ BIPRU 2.2, "capital" refers to a *firm's* financial resources, *capital resources* and internal capital, all as referred to in the *overall Pillar 2 rule*.

The ICAAP and the SREP: Introduction

- 2.2.4 **G** The adequacy of a *firm's* capital needs to be assessed both by a *firm* and the *appropriate regulator*. This process involves:
- (1) an *internal capital adequacy assessment process (ICAAP)*, which a *firm* is obliged to carry out in accordance with the *ICAAP rules*; and
 - (2) a *supervisory review and evaluation process (SREP)*, which is conducted by the *appropriate regulator*.

The ICAAP and the SREP: The ICAAP

- 2.2.5 **G** The obligation to conduct an *ICAAP*, includes requirements on a *firm* to:
- (1) carry out regularly assessments of the amounts, types and distribution of financial resources, *capital resources* and internal capital that it

considers adequate to cover the nature and level of the risks to which it is or might be exposed (■ GENPRU 1.2.30 R to ■ GENPRU 1.2.41 G (the *overall Pillar 2 rule* and related rules);

- (2) identify the major sources of risk to its ability to meet its liabilities as they fall due (the *overall Pillar 2 rule*);
- (3) conduct stress and scenario tests (the *general stress and scenario testing rule*), taking into account, in the case of a *firm* with an *IRB permission*, the stress test required by ■ BIPRU 4.3.39 R to ■ BIPRU 4.3.40 R (Stress tests used in assessment of capital adequacy for a *firm* with an *IRB permission*);
- (4) ensure that the processes, strategies and systems required by the *overall Pillar 2 rule* and used in its *ICAAP*, are both comprehensive and proportionate to the nature, scale and complexity of that *firm's* activities (■ GENPRU 1.2.35 R); and
- (5) document its *ICAAP* (■ GENPRU 1.2.60 R).

2.2.6 **G** Where a *firm* is a member of a group, it should base its *ICAAP* on the consolidated financial position of the group. The group assessment should include information on diversification benefits and transferability of resources between members of the group and an apportionment of the capital required by the group as a whole to the *firm* (■ GENPRU 1.2.44 G to ■ GENPRU 1.2.56 G (Application of ■ GENPRU 1.2 on a solo and consolidated basis: Processes and tests)). A *firm* may, instead of preparing the *ICAAP* itself, adopt as its *ICAAP* an assessment prepared by other group members.

2.2.7 **G** A *firm* should ensure that its *ICAAP* is:

- (1) the responsibility of the *firm's governing body*;
- (2) reported to the *firm's governing body*; and
- (3) forms an integral part of the *firm's* management process and decision-making culture.

The ICAAP and the SREP: The SREP

2.2.8 **G** The *appropriate regulator* will review a *firm's ICAAP*, including the results of the *firm's* stress tests carried out under *GENPRU* and *BIPRU*, as part of its *SREP*. Provided that the *appropriate regulator* is satisfied with the appropriateness of a *firm's* capital assessment, the *appropriate regulator* will take into account that *firm's ICAAP* and stress tests in its *SREP*. More material on stress tests for a *firm* with an *IRB permission* can be found in ■ BIPRU 2.2.41 R to ■ BIPRU 2.2.45 G.

2.2.9 **G** The *SREP* is a process under which the *appropriate regulator*:

- (1) reviews the arrangements, strategies, processes and mechanisms implemented by a *firm* to comply with *GENPRU*, *BIPRU* and *SYSC* and with requirements imposed by or under the *regulatory system* and evaluates the risks to which the *firm* is or might be exposed;

- (2) determines whether the arrangements, strategies, processes and mechanisms implemented by the *firm* and the capital held by the *firm* ensures a sound management and coverage of the risks in (1); and
- (3) (if necessary) requires the *firm* to take the necessary actions or steps at an early stage to address any failure to meet the requirements referred to in (1).

- 2.2.10** **G** As part of its *SREP*, the *appropriate regulator* may ask a *firm* to provide it with the results of that *firm's ICAAP*, together with an explanation of the process used. Where appropriate, the *appropriate regulator* will ask for additional information on the *ICAAP*.
- 2.2.11** **G** As part of its *SREP*, the *appropriate regulator* will consider whether the amount and quality of capital which a *firm* should hold to meet its *CRR* in ■ GENPRU 2.1 (Calculation of capital resources requirements) is sufficient for that *firm* to comply with the *overall financial adequacy rule*.
- 2.2.12** **G** After completing a review as part of the *SREP*, the *appropriate regulator* will normally give that *firm* *individual guidance (individual capital guidance)*, advising it of the amount and quality of capital which it should hold to meet the *overall financial adequacy rule*.
- 2.2.12A** **G** As part of its *SREP*, the *appropriate regulator* will also consider whether a *firm* should hold a *capital planning buffer* and, in that case, the amount and quality of such *capital planning buffer*. In making these assessments, the *appropriate regulator* will have regard to the nature, scale and complexity of a *firm's* business and of the major sources of risks relevant to such business as referred to in the *general stress and scenario testing rule*. Accordingly, a *firm's capital planning buffer* should be of sufficient amount and adequate quality to allow the *firm* to continue to meet the *overall financial adequacy rule* in the face of adverse circumstances, after allowing for realistic management actions.
- 2.2.12B** **G** After completing a review as part of the *SREP*, the *appropriate regulator* may notify the *firm* of the amount and quality of capital which it should hold as a *capital planning buffer* over and above the level of capital recommended as its *ICG*. The *appropriate regulator* may set a *firm's capital planning buffer* either as an amount and quality of capital which it should hold now (that is, at the time of the *appropriate regulator's* notification following the *firm's SREP*) or, in exceptional cases, as a forward looking target that the *firm* should build up over time.
- 2.2.12C** **G** Where the amount or quality of capital which the *appropriate regulator* considers a *firm* should hold to meet the *overall financial adequacy rule* or as a *capital planning buffer* is not the same as that which results from a *firm's ICAAP*, the *appropriate regulator* usually expects to discuss any such difference with the *firm*. Where necessary, the *appropriate regulator* may consider the use of its powers under section 166 of the *Act* (Reports by skilled persons) to assist in such circumstances.

- 2.2.13** **G** If a *firm* considers that the *individual capital guidance* given to it is inappropriate to its circumstances it should, consistent with *Principle 11* (Relations with regulators), inform the *appropriate regulator* that it disagrees with that *guidance*. The *appropriate regulator* may reissue *individual capital guidance* if, after discussion with the *firm*, the *appropriate regulator* concludes that the amount or quality of capital that the *firm* should hold to meet the *overall financial adequacy rule* is different from the amount or quality initially suggested by the *appropriate regulator*.
- 2.2.13A** **G** If a *firm* disagrees with the *appropriate regulator's* assessment as to the amount or quality of *capital planning buffer* that it should hold, it should, consistent with *Principle 11* (Relations with regulators), notify the *appropriate regulator* of its disagreement. The *appropriate regulator* may reconsider its initial assessment if, after discussion with the *firm*, the *appropriate regulator* concludes that the amount or quality of capital that the *firm* should hold as *capital planning buffer* is different from the amount or quality initially suggested.
- 2.2.14** **G** The *appropriate regulator* will not give *individual capital guidance* to the effect that the amount of capital advised in that *guidance* is lower than the amount of capital which a *firm* should hold to meet its *CRR*.
- 2.2.15** **G** If, after discussion, the *appropriate regulator* and a *firm* still do not agree on an adequate level of capital, the *appropriate regulator* may consider using its powers under section 55J of the *Act* to vary on its own initiative a *firm's Part 4A permission* so as to require it to hold capital in accordance with the *appropriate regulator's* view of the capital necessary to comply with the *overall financial adequacy rule*. In deciding whether it should use its powers under section 55J, the *appropriate regulator* will take into account the amount and quality of the *capital planning buffer* which the *firm* should hold as referred to in ■ BIPRU 2.2.12A G and ■ BIPRU 2.2.12B G. ■ SUP 7 provides further information about the *appropriate regulator's* powers under section 45.
- The drafting of individual capital guidance and capital planning buffer**
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- 2.2.16** **G** If the *appropriate regulator* gives *individual capital guidance* to a *firm*, the *appropriate regulator* will state what amount and quality of capital the *appropriate regulator* considers the *firm* needs to hold in order to comply with the *overall financial adequacy rule*. It will generally do so by saying that the *firm* should hold *capital resources* of an amount which is at least equal to a specified percentage of that *firm's capital resources requirement* plus one or more static add-ons in relation to specific risks in accordance with the *overall Pillar 2 rule*.
- 2.2.17** **G**
- (1) *Individual capital guidance* may refer to two types of *capital resources*.
 - (2) The first type is referred to as general capital. It refers to total *tier one capital resources* and *tier two capital resources* after deductions.

- (3) The second type is referred to as total capital. It refers to total *tier one capital resources*, *tier two capital resources* and *tier three capital resources* after deductions.
- 2.2.18** **G** (1) In both of the cases in **■ BIPRU 2.2.17 G** *capital resources* should be calculated in the same way as they are in GENPRU 2.2 (Capital resources). This includes the *rules* limiting the amount of capital that can be included in the various tiers of capital when *capital resources* are being calculated.
- (2) **■ GENPRU 2.2.42 R** does not allow *innovative tier one capital* to count as *tier one capital resources* for certain purposes. This restriction does not apply for the purposes in **■ BIPRU 2.2.17 G**.
- 2.2.19** **G** (1) *Individual capital guidance* may also be given with respect to group capital resources. This paragraph explains how such *guidance* should be interpreted unless the *individual capital guidance* specifies another interpretation.
- (2) If **■ BIPRU 8.2.1 R** (General consolidation rule for a UK consolidation group) applies to the *firm* the *guidance* relates to its UK consolidation group. If **■ BIPRU 8.3.1 R** (General consolidation rule for a non-EEA sub-group) applies to the *firm* the *guidance* relates to its non-EEA sub-group. If both apply to the *firm* the *guidance* relates to its UK consolidation group and to its non-EEA sub-group.
- (3) The *guidance* will be on the overall financial adequacy rule as it applies on a consolidated basis under **■ GENPRU 1.2.59 R** (Application of **■ GENPRU 1.2** on a solo and consolidated basis: Adequacy of resources) and insofar as it refers to capital resources.
- (4) **■ BIPRU 2.2.16 G** to **■ BIPRU 2.2.18 G** apply for the purpose of this paragraph as they apply to *guidance* given on a solo basis. References to *capital resources* should be read as being to *consolidated capital resources*.
- 2.2.19A** **G** Where the *appropriate regulator* notifies a *firm* that it should hold a *capital planning buffer*, the notification will state what amount and quality of capital the *appropriate regulator* considers that is adequate for the *firm* to hold as such. This will normally be notified to the *firm* together with its *individual capital guidance* and expressed as a separate amount of *capital resources* that the *firm* should hold in excess of the amount of *capital resources* indicated as its *individual capital guidance*.
- 2.2.19B** **G** For the purposes of **■ BIPRU 2.2.19A G**, **■ BIPRU 2.2.17 G** to **■ BIPRU 2.2.19 G** apply as they apply to *individual capital guidance*. References in those provisions to *individual capital guidance* or *guidance* should be read as if they were references to *capital planning buffer*. In relation to **■ BIPRU 2.2.19G (3)** and **■ GENPRU 1.2.59 R**, where the *general stress and scenario testing rule*, as part of the ICAAP rules, applies to a *firm* on a consolidated basis, the *appropriate regulator* may notify the *firm* that it should hold a group *capital planning buffer*. In these cases, the *firm* should ensure that the group holds a *capital planning buffer* of sufficient amount and adequate quality to allow it to

continue to meet the *overall financial adequacy rule* in the face of adverse circumstances, after allowing for realistic management actions.

Failure to meet individual capital guidance and monitoring and reporting on the capital planning buffer

- 2.2.20** **G** A firm's continuing to hold capital in accordance with its *individual capital guidance* and its ability to carry on doing so is a fundamental part of the *appropriate regulator's* supervision of that *firm*. Therefore if a *firm's capital resources* have fallen, or are expected to fall, below the level advised in *individual capital guidance*, then, consistent with *Principle 11* (Relations with regulators), a *firm* should inform the *appropriate regulator* of this fact as soon as practicable, explaining why this has happened or is expected to happen and:
- (1) what action the *firm* intends to take to increase its capital resources or to reduce its risks and hence its capital requirements; or
 - (2) what modification the *firm* considers should be made to the *individual capital guidance* which it has been given.
- 2.2.21** **G** In the circumstance set out in **■ BIPRU 2.2.20 G**, the *appropriate regulator* may ask a *firm* for alternative or more detailed proposals and plans or further assessments and analyses of capital adequacy and risks faced by the *firm*. The *appropriate regulator* will seek to agree with the *firm* appropriate timescales and scope for any such additional work, in light of the circumstances which have arisen.
- 2.2.22** **G** If a *firm* has not accepted *individual capital guidance* given by the *appropriate regulator* it should, nevertheless, inform the *appropriate regulator* as soon as practicable if its capital resources have fallen, or are expected to fall, below the level suggested by that *individual capital guidance*.
- 2.2.23** **G** Monitoring the use of a *firm's capital planning buffer* is also a fundamental part of the *appropriate regulator* supervision of that *firm*. A *firm* should only use its *capital planning buffer* to absorb losses or meet increased capital requirements if certain adverse circumstances materialise. These should be circumstances beyond the *firm's* normal and direct control, whether relating to a deteriorating external environment or periods of stress such as macroeconomic downturns or financial/market shocks, or firm-specific circumstances.
- 2.2.23A** **G** Consistent with *Principle 11* (Relations with regulators), a *firm* should notify the *appropriate regulator* as early as possible in advance where it has identified that it would need to use its *capital planning buffer*. The *firm's* notification should at least state:
- (1) what adverse circumstances are likely to force the *firm* to draw down its *capital planning buffer*;
 - (2) how the *capital planning buffer* will be used up in line with the *firm's* capital planning projections; and

(3) what plan is in place for the eventual restoration of the *capital planning buffer*.

- 2.2.23B** **G** Following discussions with the *firm* on the items listed in ■ BIPRU 2.2.23AG (1) to ■ BIPRU 2.2.23AG (3), the *appropriate regulator* may put in place additional reporting arrangements to monitor the *firm's* use of its *capital planning buffer* in accordance with the plan referred to in ■ BIPRU 2.2.23AG (3). The *appropriate regulator* may also identify specific trigger points as the *capital planning buffer* is being used up by the *firm*, which could lead to additional supervisory actions.
- 2.2.23C** **G** Where a *firm's capital planning buffer* is being drawn down due to circumstances other than those referred to in ■ BIPRU 2.2.23 G, such as poor planning or mismanagement, the *appropriate regulator* may ask the *firm* for more detailed plans for it to restore its *capital planning buffer*. In the light of the relevant circumstances, the *appropriate regulator* may consider taking other remedial actions, which may include using its powers under section 55L (in the case of the *FCA*) or section 55M (in the case of the *PRA*) of the *Act* to impose on its own initiative such requirements on a *firm* as it considers appropriate.
- 2.2.23D** **G** A *firm* should inform the *appropriate regulator* where its *capital planning buffer* is likely to start being drawn down even if it has not accepted the *appropriate regulator's* assessment as to the amount or quality of its *capital planning buffer*.
- 2.2.23E** **G** Where a *firm* has started to use its *capital planning buffer* in circumstances where it was not possible to notify in advance, it should notify the *appropriate regulator* and provide the information referred to in ■ BIPRU 2.2.23A G as soon as practicable afterwards.
- 2.2.23F** **G** ■ BIPRU 2.2.20 G to ■ BIPRU 2.2.23E G also apply to *individual capital guidance* and to *capital planning buffer* on a consolidated basis as referred to in ■ BIPRU 2.2.19 G.

Proportionality of an ICAAP

- 2.2.24** **G** ■ BIPRU 2.2.25 G to ■ BIPRU 2.2.27 G set out what the *appropriate regulator* considers to be a proportional approach to preparing an *ICAAP* as referred to in ■ GENPRU 1.2.35 R (The processes, strategies and systems required by the *overall Pillar 2 rule* should be comprehensive and proportionate), according to the relative degree of complexity of a *firm's* activities. If a *firm* adopts the appropriate approach, it may enable the *appropriate regulator* more easily to review a *firm's ICAAP* when the *appropriate regulator* undertakes its *SREP*. The *appropriate regulator* is also likely to place more reliance on an *ICAAP* which takes the appropriate form described in ■ BIPRU 2.2.25 G to ■ BIPRU 2.2.27 G than would otherwise be the case although there may also be circumstances in which the *appropriate regulator* will be able to rely on an *ICAAP* that is not drawn up in that form.

2.2.25

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- (1) This paragraph applies to a small *firm* whose activities are simple and primarily not credit-related.
- (2) In carrying out its *ICAAP* it could:
 - (a) identify and consider that *firm's* largest losses over the last 3 to 5 years and whether those losses are likely to recur;
 - (b) prepare a short list of the most significant risks to which that *firm* is exposed;
 - (c) consider how that *firm* would act, and the amount of capital that would be absorbed, in the event that each of the risks identified were to materialise;
 - (d) consider how that *firm's CRR* might alter under the scenarios in (c) and how its *CRR* might alter in line with its business plans for the next 3 to 5 years;
 - (e) consider whether any of the risks in the *overall Pillar 2 rule* is applicable to the *firm* (it is unlikely that any of those risks not already identified in (a) or (b) will apply to a *firm* whose activities are simple);
 - (f) document the ranges of capital required in the scenarios identified and form an overall view on the amount and quality of capital which that *firm* should hold, ensuring that its senior management is involved in arriving at that view; and
 - (g) (in order to determine the amount of capital that would be absorbed in the circumstances detailed in (c)) carry out simple sensitivity tests where the *firm* analyses the impact of a shift in the key risk parameters identified in (b) on the earnings of the *firm*.
- (3) A *firm* is also expected to form a view on the consolidated amount of capital it should hold as well as the capital required to be held in respect of each of the individual risks identified under the *overall Pillar 2 rule*. For that purpose, it may conservatively sum the results of the individual tests performed in (2)(c). If the *firm* chooses however to reduce that sum on the understanding that not all risks will materialise at the same time, then the *firm* should perform scenario tests that demonstrate that a reduction in capital is legitimate.
- (4) A *firm* should conduct stress tests and scenario analyses in accordance with ■ GENPRU 1.2.42 R to assess how that *firm's* capital and *CRR* would alter and what that *firm's* reaction might be to a range of adverse scenarios, including operational and market events. Where relevant, a *firm* should also consider the impact of a severe economic or industry downturn on its future earnings, *capital resources* and *capital resources requirement*, taking into account its business plans. The downturn scenario should be based on forward looking hypothetical events calibrated against the most adverse movements in individual risk drivers experienced over a long historical period.

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In relation to a *firm* whose activities are moderately complex, in carrying out its *ICAAP*, ■ BIPRU 2.2.25 G (3) to ■ (4) apply. In addition, it could:

- (1) having consulted the management in each major business line, prepare a comprehensive list of the major risks to which the business is exposed;
- (2) estimate, with the aid of historical data, where available, the range and distribution of possible losses which might arise from each of those risks and consider using shock stress tests to provide risk estimates;
- (3) consider the extent to which that *firm's CRR* adequately captures the risks identified in (1) and (2);
- (4) for areas in which the *CRR* is either inadequate or does not address a risk, estimate the additional capital (if any) needed to protect that *firm* and its *customers*, in addition to any other risk mitigation action that *firm* plans to take;
- (5) consider the risk that that *firm's* own analyses of capital adequacy may be inaccurate and that it may suffer from management weaknesses, which affect the effectiveness of its risk management and mitigation;
- (6) project that *firm's* business activities forward in detail for one year and in less detail for the next 3 to 5 years and estimate how that *firm's* capital and *CRR* would alter, assuming that business develops as expected;
- (7) assume that business does not develop as expected and consider how that *firm's* capital and *CRR* would alter and what that *firm's* reaction to a range of adverse economic scenarios might be (see ■ GENPRU 1.2.30 R to ■ GENPRU 1.2.43 G (the *overall Pillar 2 rule* and related *rules* and *guidance*)). Where appropriate, the adverse scenarios should consider the impact of market events that are instantaneous or occur over an extended period of time but which are nevertheless still co-dependent on movements in economic conditions;
- (8) document the results obtained from the analyses in (2), (4), (6), and (7) in a detailed report for that *firm's* senior management, and, where relevant, its *governing body*; and
- (9) ensure that systems and processes are in place to review against performance the accuracy of the estimates made in (2), (4), (6) and (7).

2.2.27

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- (1) This paragraph applies to a proportional *ICAAP* in the case of a *firm* whose activities are complex.
- (2) A proportional approach to that *firm's ICAAP* should cover the matters identified in ■ BIPRU 2.2.26 G, but is likely also to involve the use of models, most of which will be integrated into its day-to-day management and operation.
- (3) Models of the sort referred to in (2) may be linked so as to generate an overall estimate of the amount of capital that a *firm* considers appropriate to hold for its business needs. For example, a *firm* is likely to use value at risk models for *market risk* (see ■ BIPRU 7.10), advanced

modelling approaches for credit risk (see ■ BIPRU 4) and, possibly, *advanced measurement approaches* for operational risk (see ■ BIPRU 6.5). A *firm* might also use economic scenario generators to model stochastically its business forecasts and risks. A *firm* may also link such models to generate information on the economic capital desirable for that *firm*. A model which a *firm* uses to generate its target amount of economic capital is known as an economic capital model (ECM). Economic capital is the target amount of capital which maximises the return for a *firm's* stakeholders for a desired level of risk.

- (4) A *firm* is also likely to be part of a *group* and to be operating internationally. There is likely to be centralised control over the models used throughout the *group*, the assumptions made and their overall calibration.
- (5) The more a *firm* integrates into its business such economic capital modelling, the more it is likely to focus on managing risks for the benefit of its stakeholders. Consequently, ECMs may produce capital estimates that differ from the amount of capital needed for regulatory purposes. For the *appropriate regulator* to rely on the results of a *firm's* models, including ECMs, a *firm* should be able to explain the basis and results of its models and how the amount of capital produced by its models reflects the amount of capital needed for regulatory purposes. It may be that those amounts are not equal. Where they are not equal, the *appropriate regulator* will expect a *firm* to discuss any differences with the *appropriate regulator*. However, it may prove difficult to reconcile the outcome of a *firm's* modelling with the *appropriate regulator's* own assessment of the adequacy of that *firm's* capital. This may be the case when, for instance, matters of judgment are involved in arriving at a *firm's* capital assessment, or the *appropriate regulator* relies on information which cannot be fully disclosed to the *firm* (for example comparisons with the *firm's* peers). Nevertheless, a *firm* whose ECM produces a different amount of capital to that required for regulatory purposes is still obliged to comply with the *overall Pillar 2 rule*. A *firm* should therefore be able to explain to the *appropriate regulator* how the outcome of its ECM is adjusted so that it complies with the *overall financial adequacy rule* and the *overall Pillar 2 rule*.
- (6) Stress testing should provide senior management with a consolidated view of the amount of risk the *firm* is or might be exposed to under the chosen stress events. Senior management should therefore be presented with information that considers the possibility of the risks materialising simultaneously in various proportions. For instance, it would be misrepresentative to simulate *market risk* stressed events without considering that, in those circumstances, *market counterparties* may be more likely to default. Accordingly, a *firm* could:
 - (a) carry out combined stress tests where assets and liabilities are individually subjected to simultaneous changes in two or more risk drivers; for instance, the change in value of each loan made by a *firm* may be estimated using simultaneous changes to both interest rates and stock market or property values;
 - (b) integrate the results of market and credit risk models rather than aggregating the results of each model separately; and

(c) consider scenarios which include systemic effects on the *firm* of wider failures in the *firm's* market or systems upon which the *firm* depends and also any possible systemic effects caused by the *firm* itself suffering losses which affect other market participants which in turn exacerbate the *firm's* position.

(7) Furthermore, if a complex *firm* uses an ECM it should validate the assumptions of the model through a comprehensive stress testing programme. In particular this validation should:

(a) test correlation assumptions (where risks are aggregated in this way) using combined stresses and scenario analyses;

(b) use stress tests to identify the extent to which the *firm's* risk models omit non-linear effects, for instance the behaviour of derivatives in market risk models; and

(c) consider not just the effect of parallel shifts in interest rate curves, but also the effect of curves becoming steeper or flatter.

Guidance on risks to be covered in an ICAAP

2.2.28 **G** ■ BIPRU 2.2.30 G to ■ BIPRU 2.2.40 G set out *guidance* on some of the sources of risk identified in the *overall Pillar 2 rule*. ■ BIPRU 2.2.41 R to ■ BIPRU 2.2.45 G have material relating to a *firm* with an *IRB permission*.

2.2.29 **G** (1) A *firm* may take into account factors other than those identified in the *overall Pillar 2 rule* when it assesses the level of capital it wishes to hold. These factors might include external rating goals, market reputation and its strategic goals. However, a *firm* should be able to distinguish, for the purpose of its dialogue with the *appropriate regulator*, between capital it holds in order to comply with the *overall financial adequacy rule*, capital that it holds as a *capital planning buffer* and capital held for other purposes.

(2) The calibration of the *CRR* assumes that a *firm's* business is well-diversified, well-managed with assets matching its liabilities and good controls, and stable with no large, unusual or high risk transactions. A *firm* may find it helpful to assess the extent to which its business in fact differs from these assumptions and therefore what adjustments it might be reasonable for it to make to the *CRR* to arrive at an adequate level of *capital resources*.

Interest rate risk arising from non-trading book activities

2.2.30 **G** A *firm* should assess its exposure to changes in interest rates, in particular risks arising from the effect of interest rate changes on *non-trading book* activities that are not captured by the *CRR*. In doing so, a *firm* may wish to use stress tests to determine the impact on its balance sheet of a change in market conditions.

Securitisation risk

2.2.31 **G** A *firm* should assess its exposure to risks transferred through the *securitisation* of assets should those transfers fail for whatever reason. A *firm* should consider the effect on its financial position of a *securitisation*

arrangement failing to operate as anticipated or of the values and risks transferred not emerging as expected.

Residual risk

- 2.2.32 **G** A *firm* should assess its exposure to residual risks that may result from the partial performance or failure of *credit risk mitigation* techniques for reasons that are unconnected with their intrinsic value. This could result from, for instance, ineffective documentation, a delay in payment or the inability to realise payment from a guarantor in a timely manner. Given that residual risks can always be present, a *firm* should assess the appropriateness of its *CRR* against its assumptions which underlie any risk mitigation measures it may have in place.

Concentration risk

- 2.2.33 **G** A *firm* should assess, and monitor, in detail its exposure to sectoral, geographic, liability and asset concentrations. The *appropriate regulator* considers that concentrations in these areas increase a *firm's* exposure to credit risk. Where a *firm* identifies such concentrations it should consider the adequacy of its *CRR*.

Liquidity risk

- 2.2.34 **G** In accordance with the *overall Pillar 2 rule* a *firm* should consider its exposure to *liquidity risk* and assess its response should that risk materialise.
- 2.2.35 **G** When assessing *liquidity risk*, a *firm* should consider the extent to which there is a mismatch between assets and liabilities.
- 2.2.36 **G** A *firm* should also, when assessing *liquidity risk*, consider the amount of assets it holds in highly liquid, marketable forms that are available should unexpected cash flows lead to a liquidity problem. The price concession of liquidating assets is of prime concern when assessing such *liquidity risk* and should therefore be built into a *firm's ICAAP*.
- 2.2.37 **G** Some further areas to consider in developing the *liquidity risk* scenario might include:
- (1) any mismatching between expected asset and liability cash flows;
 - (2) the inability to sell assets quickly;
 - (3) the extent to which a *firm's* assets have been pledged; and
 - (4) the possible need to reduce large asset positions at different levels of market liquidity and the related potential costs and timing constraints.

Business risk: General

- 2.2.38 **G** A *firm's CRR*, being risk-sensitive, may vary as business cycles and economic conditions fluctuate over time. A deterioration in business or economic

conditions could require a *firm* to raise capital or, alternatively, to contract its businesses, at a time when market conditions are most unfavourable to raising capital. Such an effect is known as procyclicality.

2.2.39 **G** To reduce the impact of cyclical effects, a *firm* should aim to maintain an adequate *capital planning buffer* during an upturn in business and economic cycles such that it has sufficient capital available to protect itself in unfavourable market conditions.

2.2.40 **G** To assess its expected capital requirements over the economic and business cycles, a *firm* may wish to project forward its financial position taking account of its business strategy and expected growth according to a range of assumptions as to the state of the economic or business environment which it faces. For example, an ICAAP should include an analysis of the impact that the actions of a *firm's* competitors might have on its performance, in order to see what changes in its environment the *firm* could sustain. Projections over a three to five year period would be appropriate in most circumstances. A *firm* may then calculate its projected CRR and assess whether it could be met from expected financial resources. Additional *guidance* on capital planning over an economic and business cycle can be found in ■ GENPRU 1.2.73A G (Capital planning).

Business risk: Stress tests for firms using the IRB approach

2.2.41 **R** A *firm* with an *IRB permission* must ensure that there is no significant risk that it will not be able to meet its capital resource requirements for credit risk under ■ GENPRU 2.1 (Calculation of capital resources requirements) at all times throughout an economic cycle, including the capital resources requirements for credit risk indicated by any stress test carried out under ■ BIPRU 4.3.39 R to ■ BIPRU 4.3.40 R (Stress tests used in assessment of capital adequacy for a *firm* with an *IRB permission*) as being likely to apply in the scenario tested. For the purpose of deciding what *capital resources* are or will be available to meet those credit risk requirements from time to time a *firm* must exclude *capital resources* that are likely to be required to meet its other capital requirements under ■ GENPRU 2.1 at the relevant time. A *firm* must also be able to demonstrate to the *appropriate regulator* at any time that it is complying with this *rule*.

2.2.42 **R** ■ BIPRU 2.2.41 R applies to a *firm* on a solo basis if ■ BIPRU 4 (IRB approach) applies to it on a solo basis and applies on a consolidated basis if ■ BIPRU 4 does.

2.2.43 **R** If ■ BIPRU 2.2.41 R applies to a *firm* on a consolidated basis the following adjustments are made to ■ BIPRU 2.2.41 R in accordance with the general principles of ■ BIPRU 8 (Group risk - consolidation):

- (1) references to *capital resources* are to the *consolidated capital resources* of the *firm's UK consolidation group* or, as the case may be, its *non-EEA sub-group*; and
- (2) references to the capital requirements in ■ GENPRU 2.1 (Calculation of capital resources requirements) are to the consolidated capital requirements with respect to the *firm's UK consolidation group* or, as

the case may be, its *non-EEA sub-group* under ■ BIPRU 8 (Group risk - consolidation).

2.2.44 **G** If a *firm's* current available *capital resources* are less than the capital resources requirement indicated by the stress test that need not be a breach of ■ BIPRU 2.2.41 R. The *firm* may wish to set out any countervailing effects and off-setting actions that can be demonstrated to the satisfaction of the *appropriate regulator* as being likely to reduce the difference referred to in the first sentence. The *appropriate regulator* is only likely to consider a demonstration of such actions as credible if those actions are set out in a capital management plan based on the procedures in ■ GENPRU 1.2.73A G (Capital planning) and including a plan of the type referred to in ■ GENPRU 1.2.73A G (5) that has been approved by the *firm's* senior management or *governing body*.

2.2.45 **G** The countervailing factors and off-setting actions that a *firm* may rely on as referred to in ■ BIPRU 2.2.44 G include, but are not limited to, projected balance sheet shrinkage, growth in *capital resources* resulting from retained profits between the date of the stress test and the projected start of the economic downturn, the possibility of raising new capital in a downturn, the ability to reduce dividend payments or other distributions, and the ability to allocate capital from other risks which can be shown to be negatively correlated with the *firm's* credit risk profile.

Systems and controls

2.2.46 **G** A *firm* may decide to hold additional capital to mitigate any weaknesses in its overall control environment. These weaknesses might be indicated by the following:

- (1) a failure by a *firm* to complete an assessment of its systems and controls to establish whether they comply with SYSC; or
- (2) a failure by a *firm's* senior management to approve its financial results; or
- (3) a failure by a *firm* to consider an analysis of relevant internal and external information on its business and control environment.

2.2.47 **G** In considering if there are any systems and control weaknesses and their effect on the adequacy of the *CRR*, a *firm* should be able to demonstrate to the *appropriate regulator* that all the issues identified in SYSC have been considered and that appropriate plans and procedures exist to deal adequately with adverse scenarios.

Risks which may be considered according to the nature of the activities of a firm

2.2.48 **G**

- (1) ■ BIPRU 2.2.61 G to ■ BIPRU 2.2.70 G set out *guidance* for:
 - (a) [deleted]
 - (b) an asset management *firm*; and
 - (c) a securities *firm*;

whose activities are either simple or moderately complex.

(2) ■ BIPRU 2.2.49 G to ■ BIPRU 2.2.70 G provide examples of the sorts of risks which such a *firm* might typically face and of stress tests or scenario analyses which it might carry out as part of its *ICAAP*.

(3) The material on securities *firms* is also relevant to a *commodities firm*.

Banks and building societies

2.2.49 G

2.2.50 G

2.2.51 G

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2.2.60 G

An asset management firm

2.2.61 G An asset manager is primarily exposed to *operational risk* and reputational risk.

2.2.62 G When assessing reputational risk an asset manager should consider issues such as:

(1) how poor performance can affect its ability to generate profits;

- (2) the effect on its financial position should one or more of its key fund managers leave that *firm*;
- (3) the effect on its financial position should it lose some of its largest customers; and
- (4) how poor customer services can affect its financial position; for example, a *firm* which has outsourced the management of customer accounts may want to consider the impact on its own reputation of the service provider failing to deliver the service.

2.2.63 **G** As an asset manager's mandates become more complex, the risk of it failing to comply fully with the terms of its contracts increases. In the event of such failure, a *firm* can be exposed to substantial losses resulting from *customers'* claims and legal actions. Although the *appropriate regulator* would expect an asset manager to have in place adequate controls to mitigate that risk, it may also like to consider the potential cost to it should *customers* claim that it has not adhered to mandates. Past claims and compensation may provide a useful benchmark for an asset manager to assess its sensitivity to future legal action. In assessing the adequacy of its capital, an asset manager may therefore consider whether it could absorb the highest operational loss it has suffered over the last 3 to 5 years.

2.2.64 **G** In relation to the issues identified in **■ BIPRU 2.2.63 G**, an asset manager should consider, for example:

- (1) the direct cost to it resulting from fraud or theft;
- (2) the direct cost arising from *customers'* claims and legal action in the future; an asset manager could consider the impact on its financial position if a legal precedent were to encourage its *customers* to take legal action against that *firm* for failing to advise correctly on a certain type of product; the relevance of such scenarios is likely to depend on whether the asset manager is acting on a discretionary basis or solely as advisor; and
- (3) where it has obtained professional indemnity insurance, the deductibles and individual or aggregate limits on the sums insured.

2.2.65 **G** The *appropriate regulator* expects an asset manager to consider the impact of economic factors on its ability to meet its liabilities as they fall due. An asset manager should therefore develop scenarios which relate to its strategic and business plan. An asset manager might therefore consider:

- (1) the effect of a market downturn affecting both transaction volumes and the market values of assets in its funds; in assessing the impact of such a scenario, an asset manager may consider the extent to which it can remain profitable (for example, by rapidly scaling down its activities and reducing its costs);
- (2) the impact on current levels of capital if it plans to undertake a significant restructuring; and
- (3) the impact on current levels of capital if it plans to enter a new market or launch a new product; it should assess the amount of

capital it needs to hold, when operating for the first time in a market in which it lacks expertise.

A securities firm

2.2.66

G

- (1) A securities *firm* may consider the impact of the situations listed in (a) to (c) on its capital levels when assessing its exposure to concentration risk:
- (a) the potential loss that could arise from large exposures to a single *counterparty*;
 - (b) the potential loss that could arise from exposures to large transactions or to a product type; and
 - (c) the potential loss resulting from a combination of events such as a sudden increase in volatility leaving a hitherto fully-margined client unable to meet the margin calls due to the large size of the underlying *position* and the subsequent difficulties involved in liquidating its *position*.
- (2) An example of the analysis in (1)(b) relates to a securities *firm* which relies on the income generated by a large, one-off corporate finance transaction. It may want to consider the possibility of legal action arising from that transaction which prevents the payment of its fees. Additionally, an underwriting *firm* may, as a matter of routine, commit to place a large amount of securities. It may therefore like to assess the impact of losses arising from a failure to place the securities successfully.

2.2.67

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Where a securities *firm* deals in illiquid securities (for example, unlisted securities or securities listed on illiquid markets), or holds illiquid assets, potentially large losses can arise from trades that have failed to settle or because of large unrealised market losses. A securities *firm* may therefore consider the impact of *liquidity risk* on its exposure to:

- (1) credit risk; and
- (2) *market risk*.

2.2.68

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Counterparty risk *rules* only partially capture the risk of settlement failure as the quantification of risk is only based on mark-to-market values and does not take account of the volatility of the securities over the settlement period. A securities *firm's* assessment of its exposure to counterparty risk should take into account:

- (1) whether it acts as arranger only or whether it also executes trades;
- (2) the types of execution venues which it uses; for example, the London Stock Exchange or a retail service provider (RSP) have more depth than *multilateral trading facilities*; and
- (3) whether it offers extended settlements and free delivery compared to delivery versus payment business.

- 2.2.69 **G** (1) A securities *firm* should also consider the impact of external factors on the levels of capital it needs to hold. Scenarios covering such external factors should relate to its strategy and business plan. A securities *firm* might wish to consider the questions in (2) to (7).
- (2) Whether it plans to participate in a one-off transaction that might strain temporarily or permanently its capital.
- (3) Whether the unevenness of its revenue suggests that it should hold a capital buffer. Such an assessment could be based, for instance, on an analysis of past revenue and the volatility of its capital.
- (4) How its income might alter as interest rates fluctuate where it is obliged to pay interest to its clients in excess of interest it earns on client money deposits.
- (5) How its capital would be affected by a market downturn. For instance, how sensitive that *firm* is to a sharp reduction of trading volumes.
- (6) How political and economic factors will affect that *firm's* business. For instance, a *commodity firm* may wish to consider the impact of a sharp increase in prices on initial margins and, consequently, on its liquidity.
- (7) Whether it anticipates expanding its activities (for example, by offering clearing services), and if so, the impact on its capital.
- 2.2.70 **G** A securities *firm* may also want to assess the impact of its internal credit limits on its levels of capital. For instance, a *firm* whose internal procedures authorise dealing without cash in the account or without pre-set dealing limits might consider more capital is required than if it operated stricter internal credit limits.
- Capital models**
- 2.2.71 **G** A *firm* may approach its assessment of adequate capital by developing a model, including an ECM (see ■ BIPRU 2.2.27 G), for some or all of its business risks. The assumptions required to aggregate risks modelled and the confidence levels adopted should be considered by a *firm's* senior management. A *firm* should also consider whether any relevant risks, including systems and control risks, are not captured by the model.
- 2.2.72 **G** A *firm* should not expect the *appropriate regulator* to accept as adequate any particular model that it develops or automatically to reflect the results from the model in any *individual capital guidance* or *capital planning buffer*. However, the *appropriate regulator* will take into account the results of a sound and prudent model when giving *individual capital guidance* or when dealing with the *firm* in relation to its *capital planning buffer* (see ■ GENPRU 1.2.19 G (Outline of provisions related to ■ GENPRU 2.1 (Adequacy of financial resources))).
- 2.2.73 **G** There is no prescribed approach as to how a *firm* should develop its internal capital model. However, a *firm* should be able to demonstrate:

- (1) the confidence levels set and whether these are linked to its corporate strategy;
- (2) the time horizons set for the different types of business that it undertakes;
- (3) the extent of historic data used and back-testing carried out;
- (4) that it has in place a process to verify the correctness of the model's outputs; and
- (5) that it has the skills and resources to operate, maintain and develop the model.

- 2.2.74** **G** In relation to the use of an ECM (see ■ BIPRU 2.2.27 G), the *appropriate regulator* is likely to place more reliance on a *firm's ICAAP* if the *firm* provides the following information:
- (1) a comparison of the amount of capital that the ECM generates in respect of each of the risks captured in the *CRR* before aggregation with the corresponding components of the *CRR* calculation; and
 - (2) evidence that the *guidance* in ■ BIPRU 2.2.71 G to ■ BIPRU 2.2.78 G has been followed.
- 2.2.75** **G** If a *firm* adopts a top-down approach to developing its internal model, it should be able to allocate the outcome of the internal model to risks it has previously identified in relation to each separate legal entity, business unit or business activity, as appropriate. In relation to a *firm* which is a member of a group, ■ GENPRU 1.2.53 R (Application of ■ GENPRU 1.2 on a solo and consolidated basis: Processes and tests) sets out how internal capital identified as necessary by that *firm's ICAAP* should be allocated.
- 2.2.76** **G** If a *firm's* internal model makes explicit or implicit assumptions in relation to correlations within or between risk types, or in relation to diversification benefits between business types, the *firm* should be able to explain to the *appropriate regulator*, with the support of empirical evidence, the basis of those assumptions.
- 2.2.77** **G** A *firm's* model should also reflect the past experience of both the *firm* and the sectors in which it operates.
- 2.2.78** **G** The values assigned to inputs into a *firm's* model should be derived either stochastically, by assuming the value of an item can follow an appropriate probability distribution and by selecting appropriate values at the tail of the distribution, or deterministically, using appropriate prudent assumptions. For options or guarantees which change in value significantly in certain economic or demographic circumstances, a stochastic approach would normally be appropriate.