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Online annex for BIS Bulletin no 134: "Supervisory screening with large language models: finding divergences"

This online annex provides the supporting material for the Credit Suisse and Yes Bank validation cases reported in the main Bulletin. Annex A reproduces in condensed form the structured prompt used for both the validation cases and the wider global systemically important bank (G-SIB) sample. Annex B presents the Credit Suisse and Yes Bank anonymised document pairs, each with a representative finding from the five independent runs. Annex C describes the counterfactual specificity tests confirming that each finding tracks the document text rather than the known facts of the dispute.

Annex A

Examples of the five divergence types

We anonymise and simplify the examples below. Here, "rule" refers to the applicable regulatory package. The labels describe how the texts differ; they do not establish that the prospectus breaches the rule. The examples illustrate the classification scheme. Some fall below the four-of-five recurrence threshold used for the review queue.

Narrowing: A prospectus narrows a rule when it adds a condition that makes the provision apply in fewer circumstances. In one case, the rule required the Additional Tier 1 (AT1) terms to permit loss absorption before public support was provided. The prospectus limited this trigger to support that improved, or was about to improve, the bank's capital adequacy. It therefore excluded forms of public support that did not affect capital adequacy.

Expansion: A prospectus expands a rule when it makes the regulatory provision apply to additional claims, actors or circumstances. In one case, the rule framed statutory loss absorption by reference to the instrument's principal and preserved liabilities already accrued. The prospectus also subjected accrued but unpaid interest to write-down or conversion. It therefore expanded the claims subject to loss absorption from principal alone to principal plus accrued interest. This is separate from cancelling future discretionary coupons.

Omission: An omission arises when the prospectus leaves out an element of the rule governing the same mechanism. In one case, the rule required write-down or conversion without delay and, in all cases, within one month. One prospectus retained the one-month deadline but omitted the without-delay standard. Another required action without delay but set no one-month deadline. Each omitted one part of the timing requirement.

Ambiguity: Ambiguity arises when the prospectus permits more than one reasonable reading when compared with the rule. In one case, the rule made a statutory write-down permanent, subject to a narrow valuation-correction exception. The prospectus stated that the write-down could occur "whether or not on a permanent basis". This could refer only to the valuation exception or could permit temporary statutory write-down more broadly. Because both readings are possible, the wording is ambiguous rather than contradictory.

Contradiction: A contradiction arises when the rule and prospectus prescribe incompatible treatment. In one case, a bond remained outstanding after the governing framework changed. The later rule stated that common equity did not have to absorb losses before AT1 could be written down, while the legacy prospectus required common equity to absorb losses first. The prospectus complied with the rules in force at issuance. Once the framework changed, however, the outstanding bond and the applicable rule prescribed incompatible sequencing.

The structured prompt

The same prompt was used in every run, for both the Credit Suisse and Yes Bank cases and for the wider G-SIB sample. It is reproduced below in condensed form. The full version additionally specifies output-file naming, a fixed finding-block template, finding-ID conventions and a summary table, and is retained on file. The condensed form covers the task definition, the four dimensions, the five departure types and the constraints on model output.

Structured prompt (condensed)

Task

You are analysing a contractual instrument against the operative regulatory framework that governs it. Given a package of regulatory documents and a prospectus for a bank capital instrument outstanding under that framework, identify clause-level divergences between prospectus and the requirements, permissions, definitions, conditions and mechanics stated in the regulatory documents – places where the prospectus narrows, expands, omits, contradicts or is ambiguous about provisions of the regulatory package. Read both documents in full. Use only the provided documents; do not rely on outside information.

Dimensions

Organise every finding under exactly one of four dimensions. These are output categories, not search instructions – an empty dimension is acceptable and informative.

Mechanical triggers and loss-absorption mechanics – automatic, threshold- or formula-based triggers imposing loss on the instrument, and the operational mechanics of loss imposition once a trigger fires. Excludes discretionary triggers (dimension 3).

Hierarchy and pari passu – the ordering of loss imposition across the issuer's liability structure, including contractual ranking and its interaction with statutory ranking.

Discretionary trigger (point of non-viability) – the discretionary trigger by which a regulator can declare loss imposition outside any mechanical threshold, and the contractual conditions and qualifiers governing when and how it operates.

Coupon discretion – the issuer's discretion over coupon payments and the conditions or constraints the contract attaches to it.

Departure types

Classify each finding as exactly one:

Narrowing – Prospectus scopes a regulatory concept more tightly than the regulatory framework does.

Expansion – Prospectus scopes a regulatory concept more broadly than the regulatory framework does.

Omission – Prospectus is silent on a matter regulatory package addresses or addresses a matter the regulatory package does not.

Contradiction – Prospectus and the regulatory package specify mutually inconsistent treatment.

Ambiguity – Prospectus permits multiple reasonable interpretations with materially different consequences when read against the regulatory package.

Record for each finding

The dimension; the departure type; the precise prospectus location and a verbatim extract of the relevant clause; the corresponding location and verbatim extract from the regulatory package; and a short technical explanation stating what the regulation requires or permits, what the prospectus does instead and the mechanism by which the difference matters under stress.

Constraints

Report only what the documents support; where a clause is genuinely ambiguous, classify it as Ambiguity rather than asserting one reading. Do not omit findings because they seem minor, and do not invent findings to balance dimensions. Quote verbatim in extracts – do not paraphrase, abbreviate or tidy source language. Do not draw on external knowledge of any specific case, issuer or jurisdiction; if the documents are recognisable, set that aside — the analysis must be derivable from the documents alone.

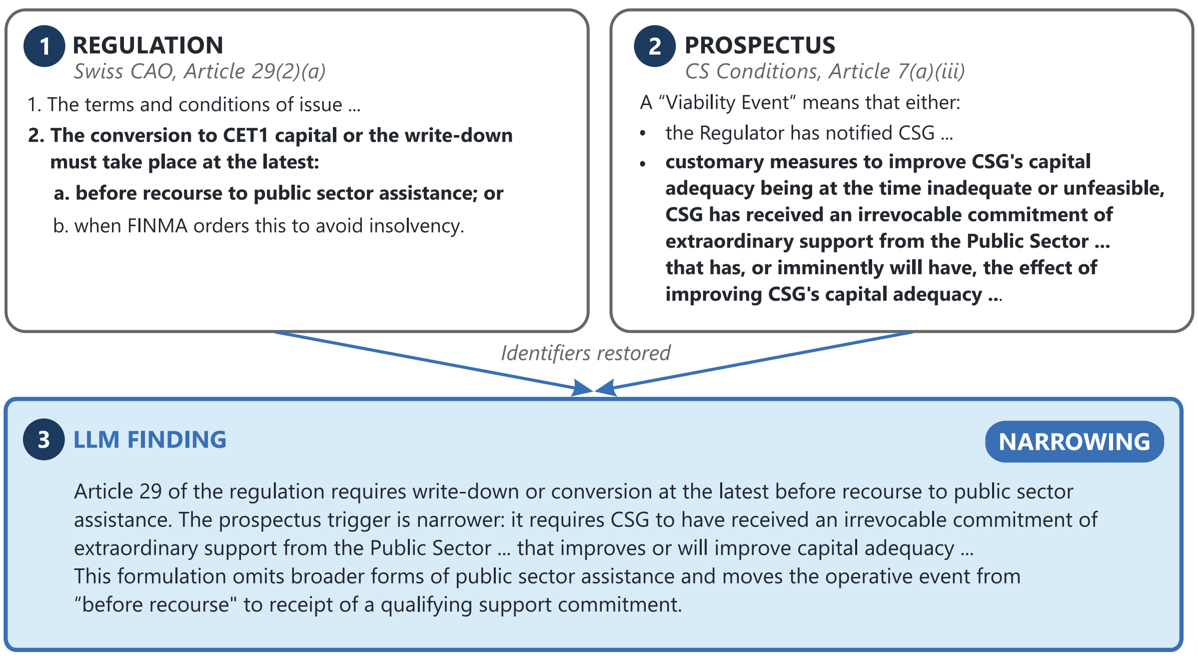
Annex B: Document pairs and results

Each case was run through the structured prompt five times, in independent sessions, as an anonymised pair: the prospectus and the regulation that governs it. The result was consistent across runs in both cases. Every run located the operative clause and assigned the same departure type, point of non-viability (PONV) narrowing for Credit Suisse and hierarchy contradiction for Yes Bank. The graphs below show one representative run per case, de-anonymised. Graph A.1 expands on Graph 3.A in the main text by showing the underlying regulatory and prospectus excerpts.

Credit Suisse

The regulatory document is the Swiss Capital Adequacy Ordinance (CAO); the prospectus is Credit Suisse Group AG's USD 2.5 billion 6.25% Tier 1 Capital Notes, issued 18 June 2014 (ISIN XS1076957700).

Credit Suisse: LLM finding on narrowing public support condition — Graph A.1

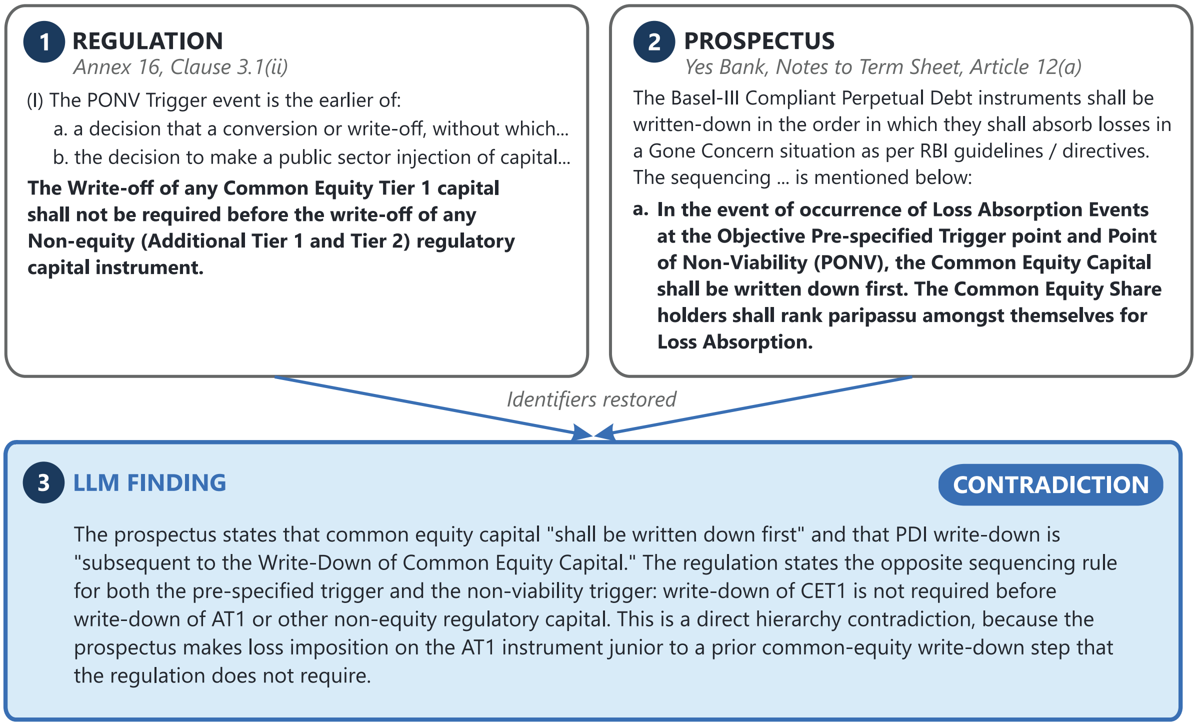


Identifiers have been restored for presentation; the comparison procedure was run on anonymized documents. CAO = Swiss Capital Adequacy Ordinance; CS = Credit Suisse; CSG = Credit Suisse Group. Ellipses are added only to shorten the quoted clauses for presentation; they are not part of the underlying legal text or of the text provided to the model.

Source: Authors' illustration.

Yes Bank

The regulatory document is the Reserve Bank of India Master Circular, Basel III Capital Regulations (2015); the prospectus is YES Bank's INR 2.8 billion 10.50% Basel III Additional Tier 1 Perpetual Bonds, issued on 31 December 2013 (ISIN INE528G08261).



Identifiers have been restored for presentation; the comparison procedure was run on anonymized documents. Ellipses are added only to shorten the quoted clauses for presentation; they are not part of the underlying legal text or of the text provided to the model.

Source: Authors' illustration.

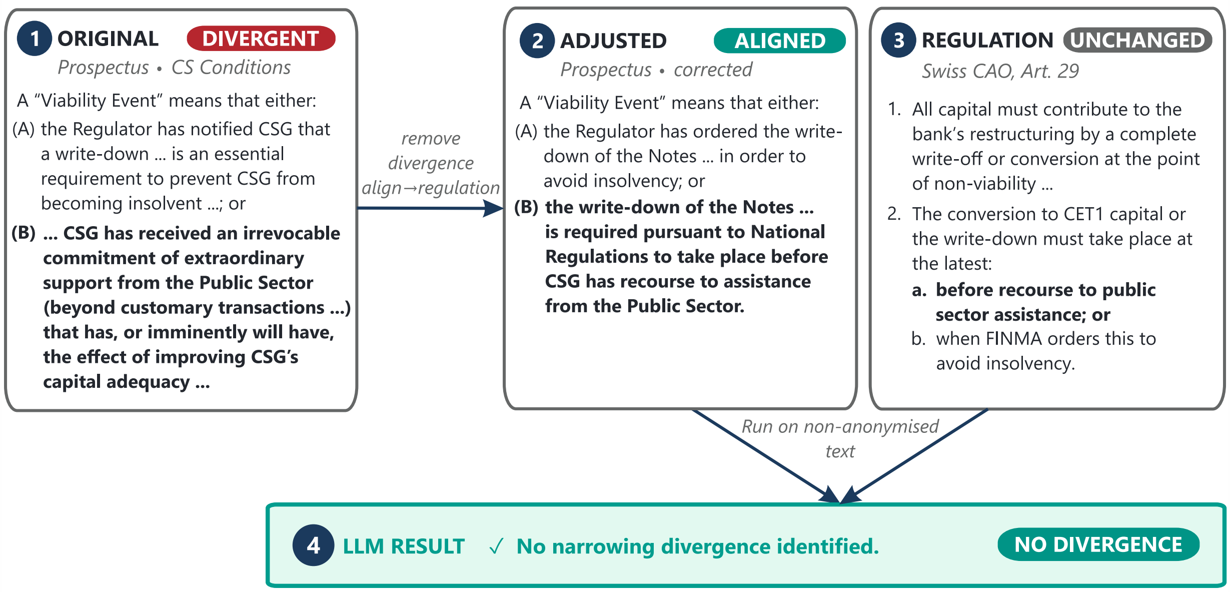
Annex C: Counterfactual specificity tests

While anonymisation strips the case's identifiers, a model might still recognise a familiar dispute from residual features of the text and draw on prior knowledge of the case. The counterfactual specificity test removes that possibility by editing the divergence out of the documents. One side of the pair is rewritten so the divergence no longer exists, and the workflow is run again to see whether it still reports the finding. These runs are non-anonymised by design. Handing the model an identifiable case while removing the textual divergence makes the test harder: a finding that still surfaces would rest on prior knowledge rather than the text. The test is run in both directions, editing the prospectus to match the regulation and then the regulation to match the prospectus. The test is passed only if the finding disappears in both directions once the divergence is removed.

Credit Suisse

Graphs A.3 and A.4 show how the specificity check is applied to the Credit Suisse case. The regulation triggers the point of non-viability broadly, at the latest before recourse to public sector assistance (Article 29 of the Swiss CAO), while the prospectus limits the trigger to support that has, or imminently will have, the effect of improving the bank's capital adequacy (limb B of Article 7(a)(iii)). The test closes this gap from each side. In Graph A.3, the qualifier is removed from the prospectus, and the clause is aligned with the broader regulatory language. In Graph A.4, the prospectus is left unchanged, and the same qualifier is added to the regulation, making it as narrow as the prospectus. In both directions, the workflow reports no PONV narrowing finding.

Credit Suisse: robustness check with the prospectus aligned to the regulation — Graph A.3



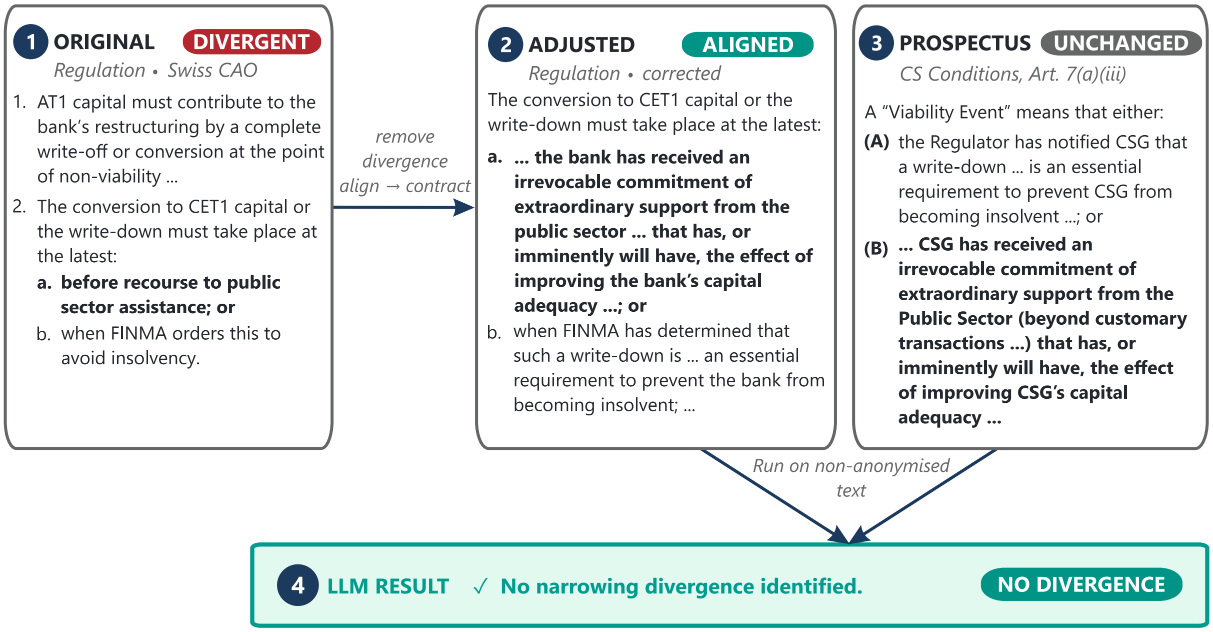
CAO = Swiss Capital Adequacy Ordinance; CS = Credit Suisse; CSG = Credit Suisse Group. Ellipses are added only to shorten the quoted clauses for presentation; they are not part of the underlying legal text or of the text provided to the model.

Source: Authors' illustration.

Yes Bank

The same test is applied to the Yes Bank hierarchy contradiction. The regulation provides that a common equity write-off is not required before writing off AT1 capital, so it mandates no equity-first sequence (Annex 16, paragraph 3.1(i) of the RBI Master Circular). The YES Bank prospectus imposes the reverse: common equity is written down first, and the AT1 write-down follows only after (clause 12 of the Notes). The contradiction is removed from each side in turn. In one direction, the prospectus is edited to drop the condition, so its sequence matches the regulation. In the other direction, the condition is added to the regulation, so both sides require the equity step. In both directions, once the divergence is removed, the workflow no longer reports the contradiction.

Credit Suisse: robustness check with the regulation aligned to the prospectus | Graph A.4



CAO = Swiss Capital Adequacy Ordinance; CS = Credit Suisse; CSG = Credit Suisse Group. Ellipses are added only to shorten the quoted clauses for presentation; they are not part of the underlying legal text or of the text provided to the model.

Source: Authors' illustration.