

## X INVALID

Confidence: 100/100 | Prova v1.0.0 | Validator v0.1.0

### Argument Graph

ID	Claim	Type
claim-1	The credit model estimates inter-pool default correlation at 0.3%, indicating that mortgage pools will not fail simultan	premise
claim-2	The CDO tranche is rated AAA	claim
claim-3	Institutional investors classify the tranche as equivalent in risk to US Treasury securities and purchase it at Treasury	claim
claim-4	Strong institutional demand at those spreads allows originators to underwrite additional mortgage pools at the same tigh	claim
claim-5	Sustained institutional demand confirms that sophisticated market participants have independently validated the 0.3% def	claim
claim-6	The AAA rating is externally confirmed by the market pricing behavior observed in Steps 3 and 4	conclusion
edges	claim-1→claim-2, claim-2→claim-3, claim-3→claim-4, claim-4→claim-5, claim-5→claim-1, claim-4→claim-6, claim-5→claim-6, claim-6→claim-2	

### Failure Diagnosis

Type	<b>CIRCULAR</b>
Location	A cycle exists among: The credit model estimates inter-pool default correlation at 0.3%, indicating that mortgage pools will not fail simultaneously, The CDO tranche is rated AAA, Institutional investors classify the tranche as equivalent in risk to US Treasury securities and purchase it at Treasury-equivalent spreads...
Description	The reasoning contains a circular dependency: The credit model estimates inter-pool default correlation at 0.3%, indicating that mortgage pools will not fail simultaneously → The CDO tranche is rated AAA → Institutional investors classify the tranche as equivalent in risk to US Treasury securities and purchase it at Treasury-equivalent spreads → Strong institutional demand at those spreads allows originators to underwrite additional mortgage pools at the same tight pricing, consistent with the 0.3% default correlation → Sustained institutional demand confirms that sophisticated market participants have independently validated the 0.3% default correlation estimate → The credit model estimates inter-pool default correlation at 0.3%, indicating that mortgage pools will not fail simultaneously. The argument uses its conclusion (directly or indirectly) as a premise in its own support chain. This is circular reasoning — the conclusion cannot be established because it is assumed in the process of establishing it.

**Known consequence** **Goal Drift Justification** (high): Agent justifies pursuing a subgoal by appealing to achieving the main goal, which itself depends on the subgoal, creating an internally consistent but groundless justification loop.

## Original Reasoning Chain

Step 1: The CDO tranche is rated AAA because the credit model estimates inter-pool default correlation at 0.3%, indicating that mortgage pools will not fail simultaneously. Step 2: Because the tranche carries an AAA rating, institutional investors classify it as equivalent in risk to US Treasury securities and purchase it at Treasury-equivalent spreads. Step 3: Strong institutional demand at those spreads allows originators to underwrite additional mortgage pools at the same tight pricing, which is consistent with the 0.3% default correlation assumed in Step 1. Step 4: The sustained institutional demand documented in Step 3 confirms that sophisticated market participants have independently validated the 0.3% default correlation estimate that underlies the AAA rating in Step 1. Step 5: Therefore the AAA rating assigned in Step 1 is externally confirmed by the market pricing behavior observed in Steps 3 and 4.

---

<https://prova.cobound.dev/certificate/PROVA-20260418-B559>

Verify: <https://prova.cobound.dev/verify/PROVA-20260418-B559>

SHA-256: b559e3301ff42a3dfeaae0bf1e956894809ed1b05e3c1e2e4620ea5c7cbc5e0a

*This certificate verifies logical structure only. It does not verify factual accuracy, ethical appropriateness, regulatory compliance, or fitness for purpose. A structurally valid argument may still reach incorrect conclusions from false premises.*