# **Lean pre-coding sheet — 69/89**

**Component:** fixtures/annex\_b/part\_0/parameter\_set.json (Part 0 fixtures)  
 **Version/FormulaID:** per Annex A; does not encode run-time values (FID covers rule primitives, not specific runs).

## **1) Goal & success**

**Goal:** Provide the canonical **ParameterSet** fixture for Part 0 tests: a frozen map of VM-VAR-### → value used by the engine; acts as the single source of truth for thresholds, allocation family, weighting, and operational defaults.

**Success:** Loads under the Part 0 schema and yields deterministic runs when combined with the matching Registry/Tallies (JSON canonicalization, sorted keys, LF, UTC).

## **2) Scope**

**In scope:** Structure of one Part 0 ParameterSet fixture; allowed variables and default domains.

**Out of scope:** Engine FID contents (covered by Annex A); algorithm details (Doc 4); report rendering (Doc 7).

## **3) Inputs → outputs**

**Inputs (loader):** JSON file at fixtures/annex\_b/part\_0/parameter\_set.json.

**Outputs:** In **LoadedContext**, a frozen **ParameterSet (PS:… id, vars map)**; values feed **TABULATE/ALLOCATE/AGGREGATE/GATES** per Doc 4.

## **4) Entities/Tables (minimal)**

## **5) Variables (used here)**

Use only variables defined in **Doc 2**; percentages are **integer %**. Baseline set for Part 0 small tests typically includes:  
 001, 007, 010–012, 020–025, 030–031, 040 (if frontier later), 050–052 (ties/RNG when needed). Defaults and domains per tables.

## **6) Functions (signatures only)**

N/A (fixture only).

## **7) Algorithm outline (how values are consumed)**

**Ballot & denominators:** VM-VAR-001 selects tabulation family; approval gate uses **approval rate = approvals\_for\_change / valid\_ballots** (fixed). VM-VAR-007 may widen *gate* denominator only.

**Allocation:** VM-VAR-010 selects WTA/PR/LR/MMP; VM-VAR-012 PR entry threshold; **constraint:** if WTA then Unit.magnitude=1.

**Aggregation:** VM-VAR-030 weighting (population\_baseline vs equal\_unit); VM-VAR-031 aggregate level = country.

**Gates:** quorum/majority/double-majority/symmetry: VM-VAR-020..025.

## **8) State flow (very short)**

**Use in pipeline:** Loaded at **LOAD**, validated at **VALIDATE**, applied through **TABULATE → … → LABEL** exactly per step order.

## **9) Determinism & numeric rules**

**Integers/rationals; no float equality.** Presentation rounding only in reports; internal comparisons use **round half to even**.

**Canonicalization:** UTF-8, sorted JSON keys, LF, UTC timestamps (affects later hashing).

## **10) Edge cases & failure policy**

Reject if any VM-VAR is **unknown**, out of domain, or violates dependencies (e.g., WTA with m>1; population weighting without baselines; DM on with bad family mode).

Approvals/score/ranked: ensure downstream rules read the correct **natural** denominators; gates use the fixed approval rule.

## **11) Test checklist (must pass)**

**Schema-validate** as a ParameterSet; all ids/values in range.

**Engine run** using this PS with Part 0 tallies/registry yields identical Result/RunRecord across OS/arch (determinism).

**Approval gate sentence** enforced when ballot\_type=approval.