Sync MoM 2022.11.03.

##### Done until now

* **Specification and implementation** analyzed
  + PR [#3216](https://github.com/osmosis-labs/osmosis/pull/3216): for spec improvements (details that were missing are added)
* **Unit tests coverage analyzed** - to see if we could add more cases to cover branches that are not covered currently.
  + All the branches are unreachable (due to the same inputs, prior code will return from the func), only “deserialization error” branches are not covered with unit tests.
  + TestGetArithmeticTwap() - new test case added to cover the case when asset0 is equal to asset1, will be in separate PR
* **Panics analyzed.**
  + Export/Import Genesis - ok
  + GetAllUniqueDenomPairs - maybe here, panic is not necessary?
  + AfterCreatePool() - panic, hook implementation execution
* **Existing test cases analyzed for logic diversity**
* **Safety Checks**
* **Current implementation analysis for issues and possible improvements**
  + GetAllUniqueDenomPairs() - suggestion to refactor this function in order to make it more simple, and to really return the slice of DenomPair structs
  + Repeating checks removed, some comments polished - nothing critical
  + PR #[3231](https://github.com/osmosis-labs/osmosis/pull/3231): Minor code improvements

##### Questions/topics for discussion

1. TWAP records, when spotPrices could not be calculated? (sp0, sp1 are replaced with zero - why not last spot price value) [code](https://github.com/osmosis-labs/osmosis/blob/94534da031b67a2eca6c24a98a266451130f41e5/x/twap/logic.go#L51-L53) -> There is an open PR for this, check it out - it will be merged. [PR](https://github.com/osmosis-labs/osmosis/pull/2923)
2. Order of the end blockers execution, concern based on the comment from: [code](https://github.com/osmosis-labs/osmosis/blob/42d73f1cc1c52e85561518be1014b730ef6b7a12/x/twap/logic.go#L81-L84) ->  
   -> The comment is pointing to the possible situations in the future, that will be covered with plasing a record to the store.
3. CreatePool and add record vs update records for existing pool

We specified this in the spec improvement PR.During creation of the pool:

* Pool creation -> new TWAP records, if there are errors - panic. [code](https://github.com/osmosis-labs/osmosis/blob/94534da031b67a2eca6c24a98a266451130f41e5/x/twap/listeners.go#L46-L50)
* Updated pool -> update Records, if there are errors - ignore, records are not updated. [Code](https://github.com/osmosis-labs/osmosis/blob/94534da031b67a2eca6c24a98a266451130f41e5/x/twap/logic.go#L96-L100)

-> TWAP should not halt the chain, so it ok to have diff in the behaviour.

1. FormatHistorical**PoolIndex**TWAPKey - records are only stored and deleted, but they are not used. Is there some plan to use them? [Code](https://github.com/osmosis-labs/osmosis/blob/94534da031b67a2eca6c24a98a266451130f41e5/x/twap/types/keys.go#L44) -> It is used - we were looking at function, not the actual keys.

##### Next Steps:

* Atomkraft adaptation and creating TLA spec for GAMM Msgs, continue with TWAP

Simulation tests:

* <https://github.com/osmosis-labs/osmosis/blob/main/simulation/ADR.md>
* <https://github.com/osmosis-labs/osmosis/blob/main/simulation/README.md>