Weight Scaling by "Previous Load Expansion"

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The short story …

Need a volume/weight ratio ?

Use the one from the
truck you <u>just</u> measured.

Why ?

- You get an immediate answer
- It's simple
- It's probably more accurate
- It's easy to change your frequency of measuring sample loads.

- People have always used a **running average** to “smooth out” the estimate of volume per ton for weight scaling

- Why ?? …. I don’t know

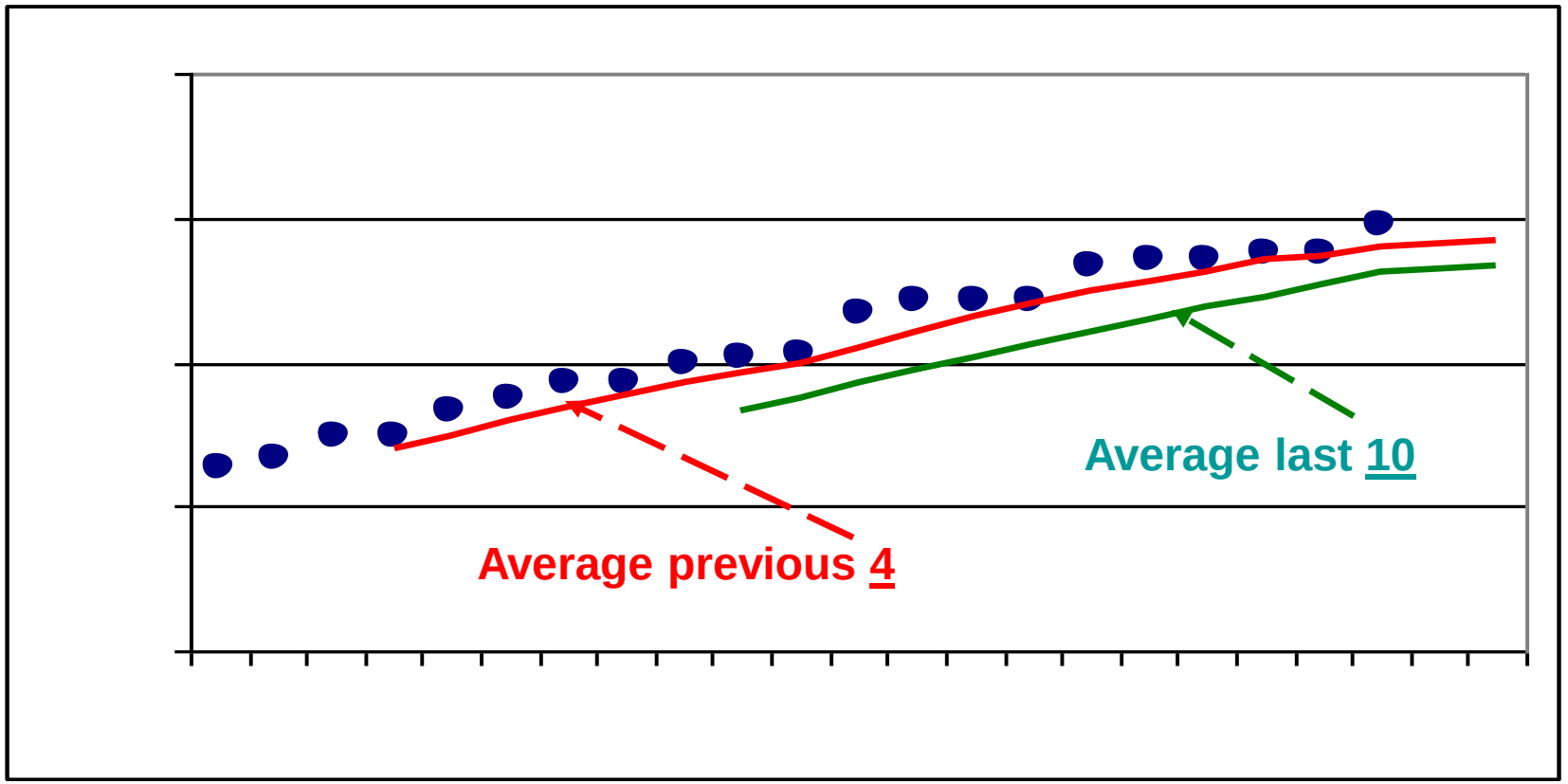
- What you <u>want</u> is the <u>best</u> match.

There is simply no way to use a "running average" to get an unbiased answer to assign to trucks as you go along.

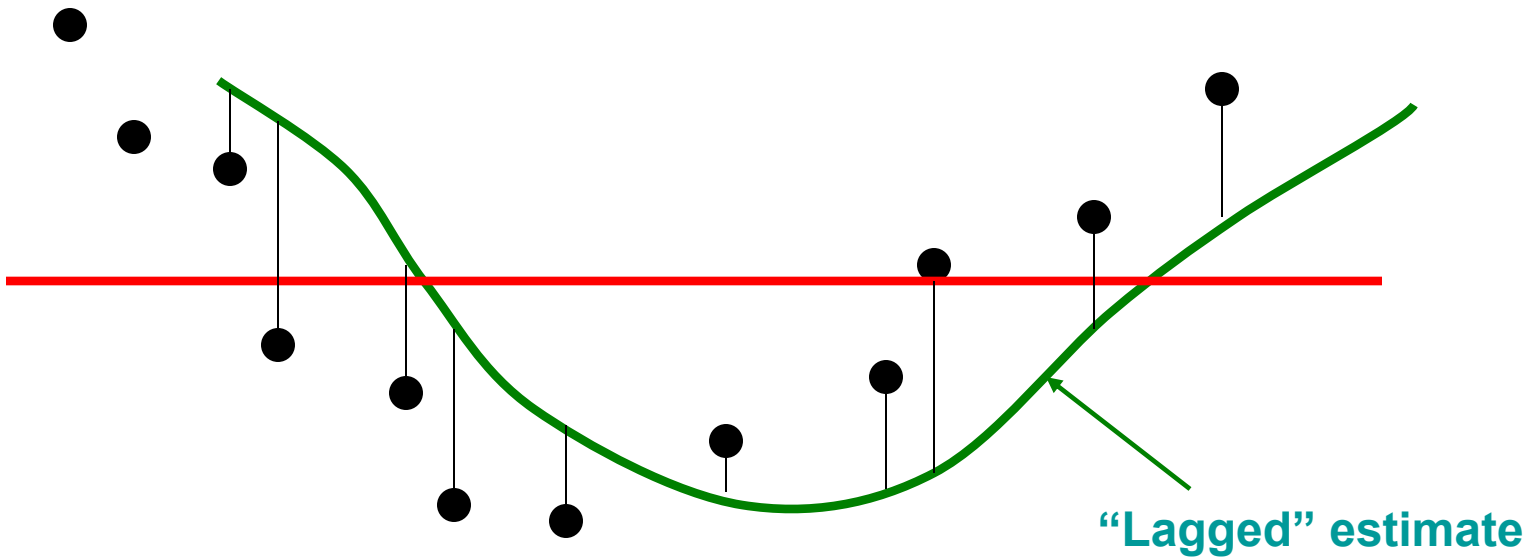
Sorry – no way.

ALSO …
A “Running average” was meant to average in both directions.

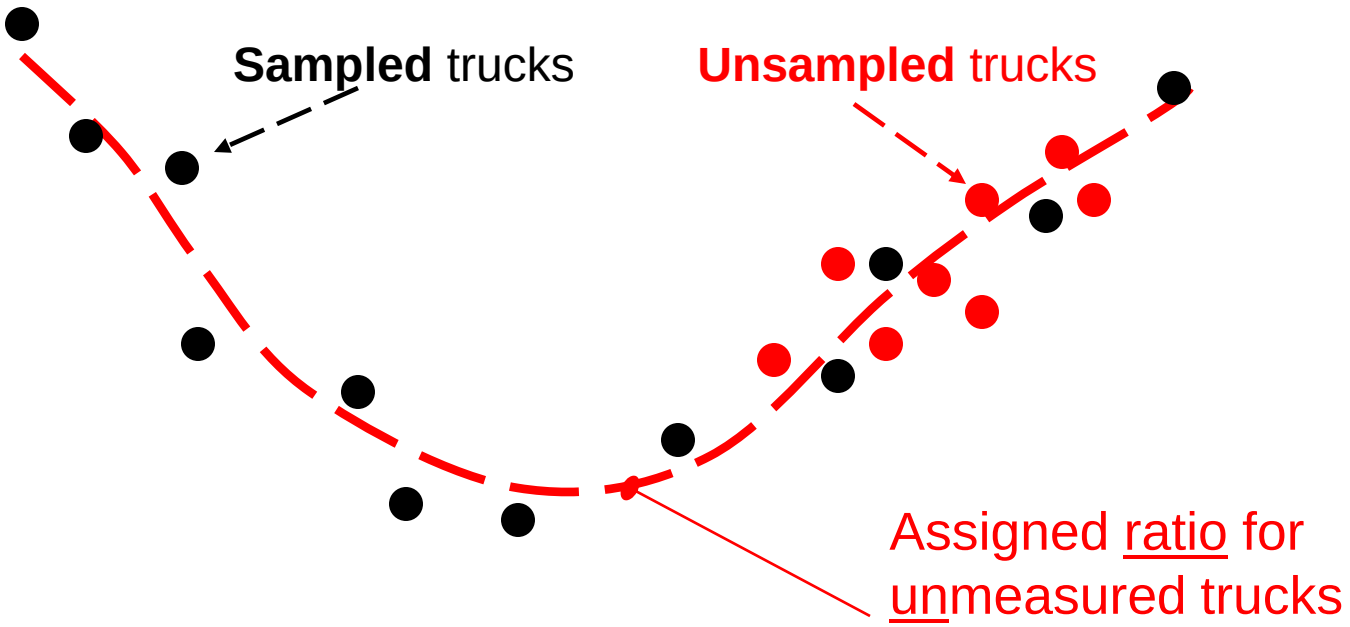
The greater the “period”, the worse the “lag” if you used it right away.



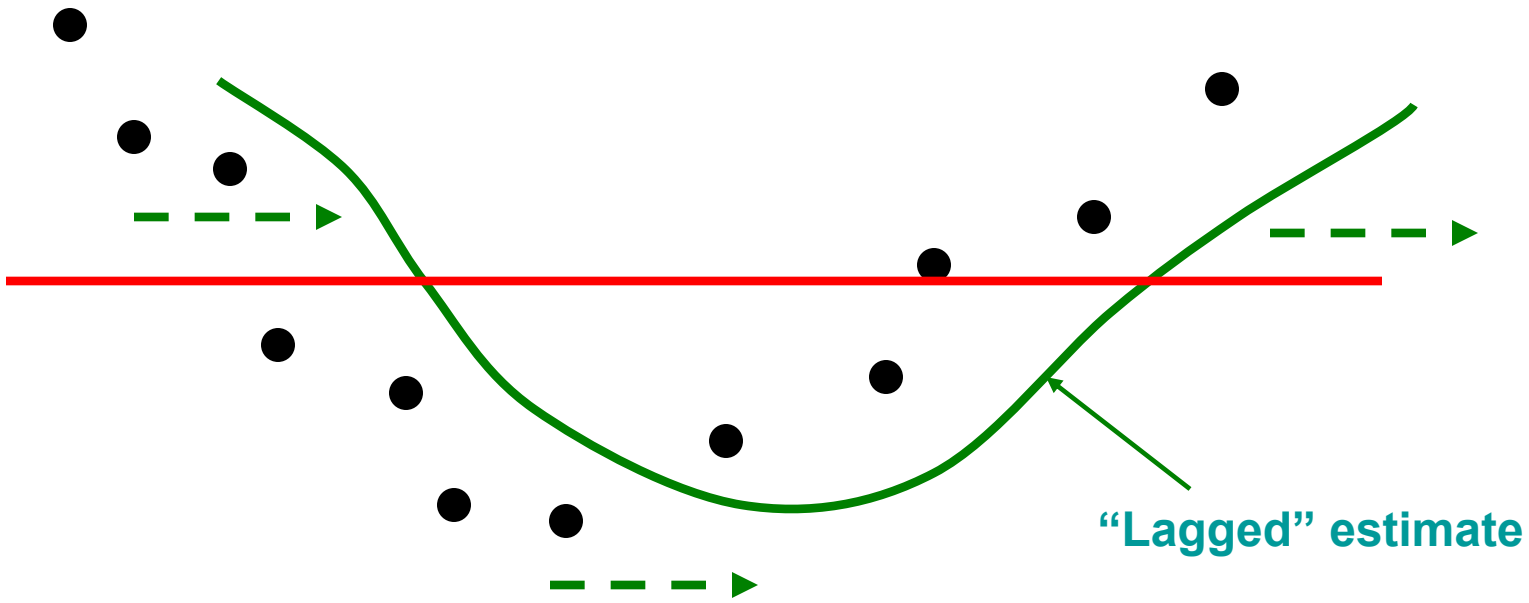
The average error is minimized if you span a “cycle” of heavy vs light ratios



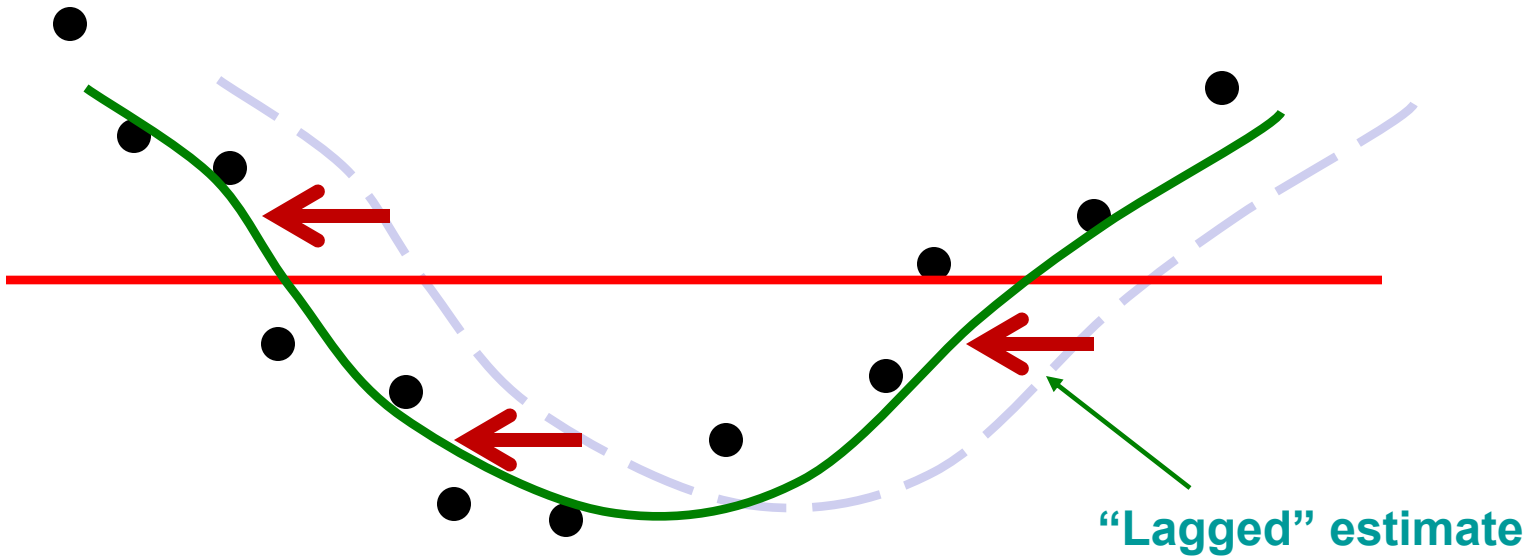
You would like your estimate to be close for each truck you are not measuring.



With a “running average”, the estimate is “shifted”.



You have to wait until you get a future answer to apply it to your truck weight by“shifting it back”



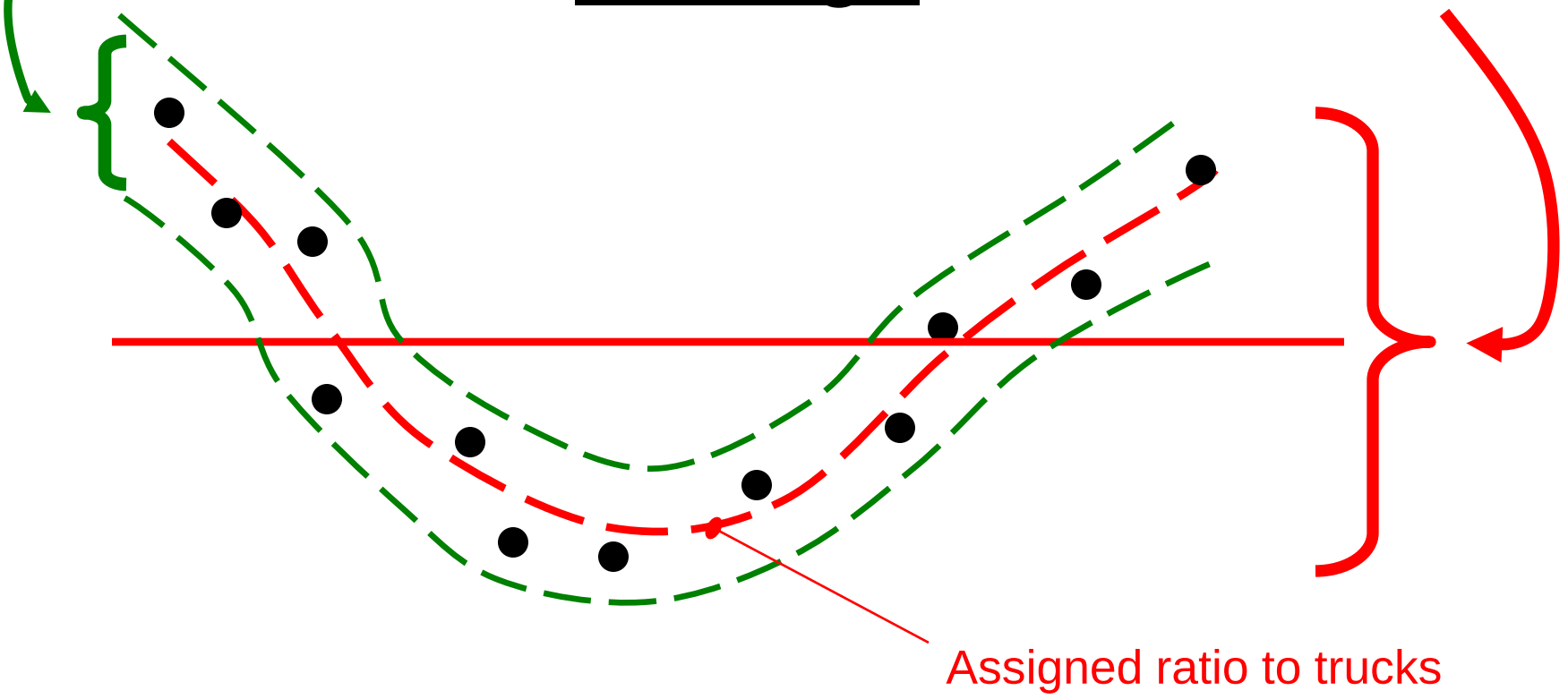
To get unbiased answers, some people “correct” their initial ratios at the end of some accounting period.

This gives correct averages, but long after the fact (and you might have to ask for money back).

How good a job did you do with estimating unsampled loads ?

That is what statistics are supposed to tell you.

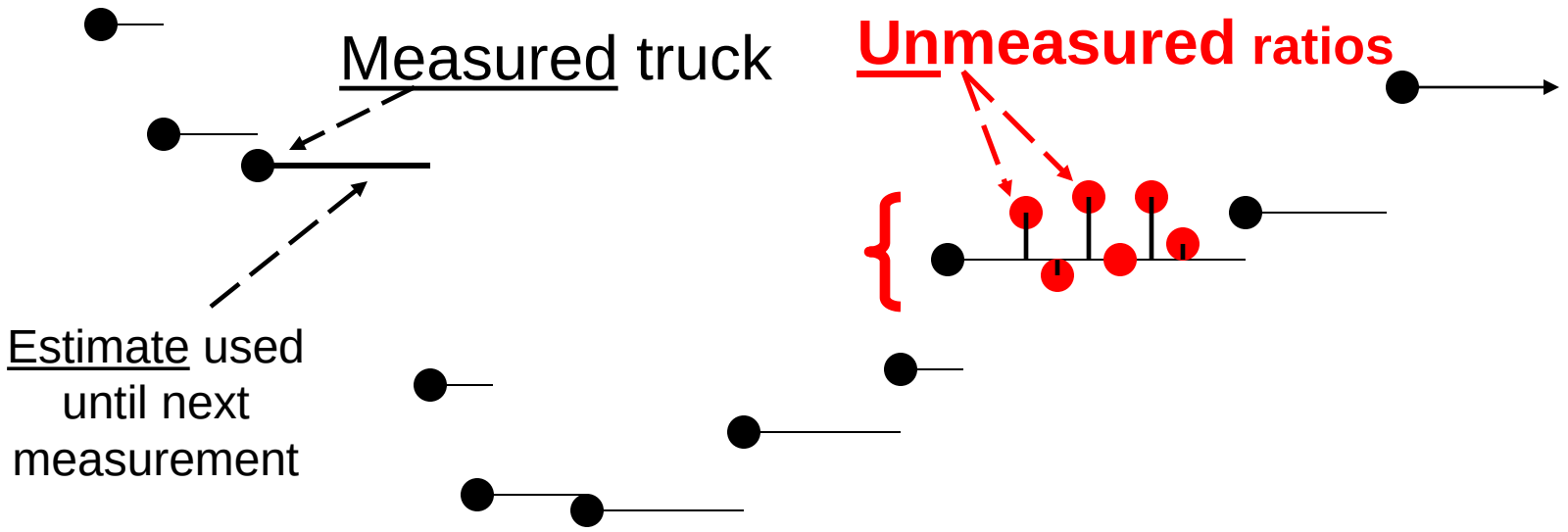
The statistics should be “around the line” (your assigned wt), not around the average of all the ratios.



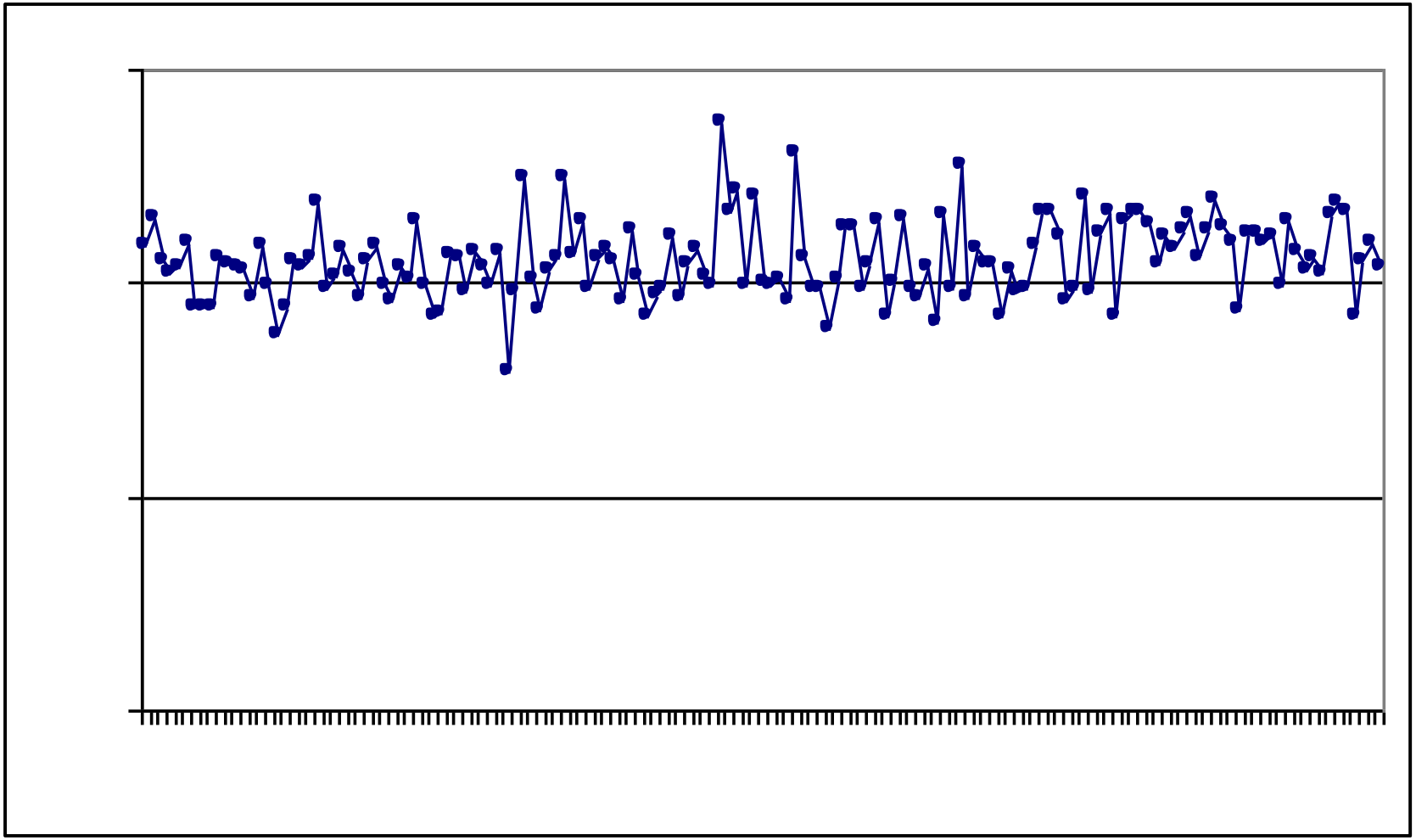
This means that the usual "sampling error" for weight scaling is too large

3% vs. 1%, for instance.

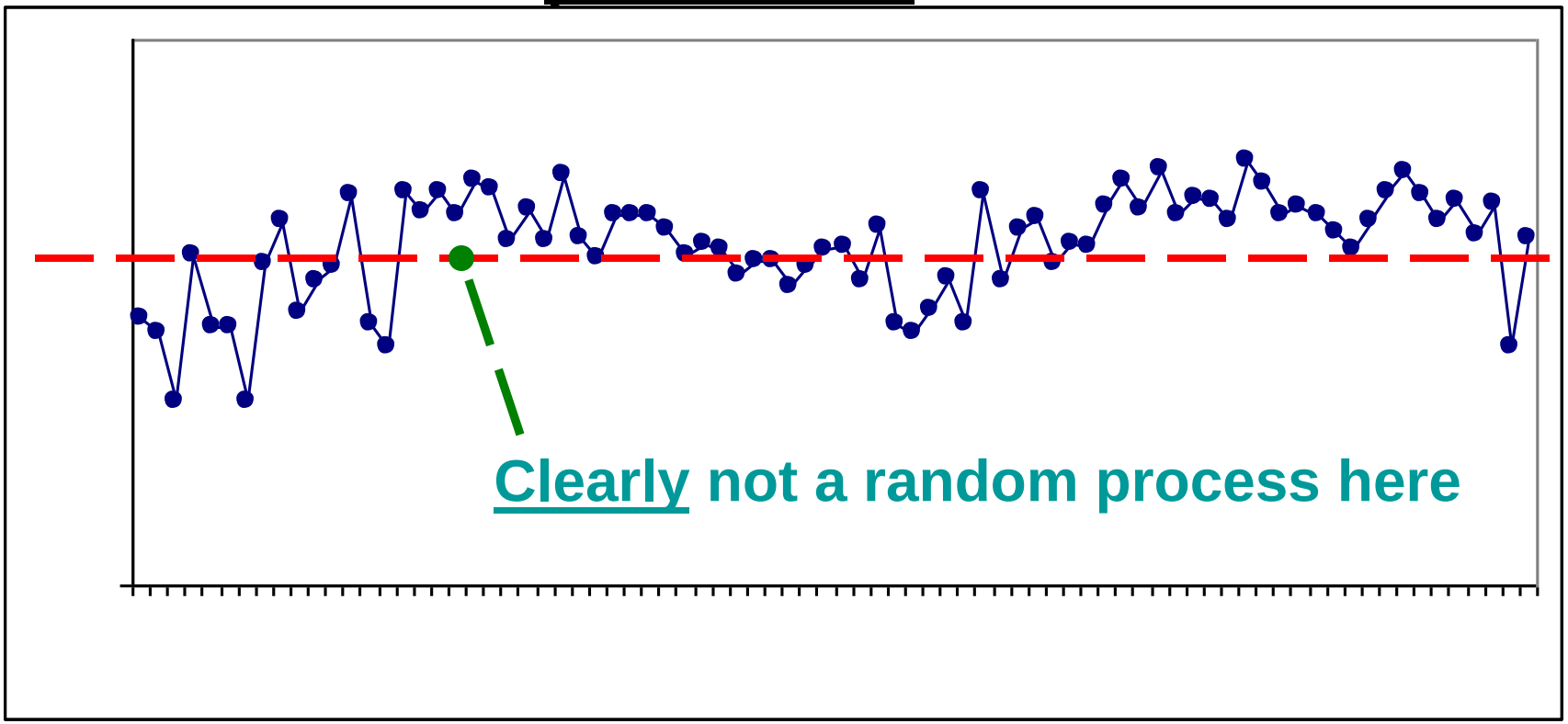
Here is the “difference” when the ratio you assign is from the previous truck measured.



If you have alternating sources, ratios can alternate too



Often, the last load is similar to the current one – so you why not use the previous ratio.



If you adjust at year-end

You can do anything you want assigning loads during the year.

Repeat …

Anything you want

BUT

Why not concentrate on getting a good answer as you go along during the year.

The last measured ratio follows any emerging trend as quickly as it develops.

Why not use it ?

To Repeat

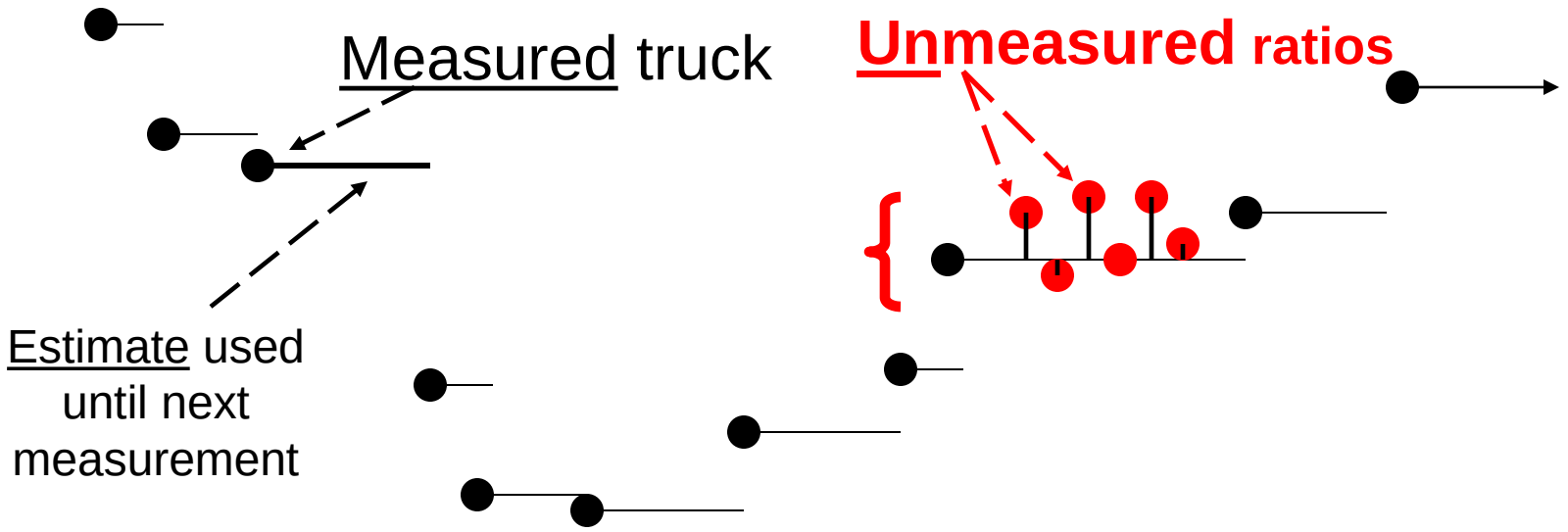
- You get an immediate answer
- It's simple
- It may be more accurate
- It's easy to change your frequency of measuring sample loads.

Last Comment :

A point on averaging when you choose trucks with different frequencies during some period.

When averaging at the end of a measurement period, you weight each measured truck by the rate of sampling used for each selection – the rates do not need to be equal during the period (just *recorded*).

Previous load assignment.



Thanks for your patience

Questions ?