

TRADING KNOWLEDGE LIBRARY

When the Timeframes Disagree

Price Action



When the Timeframes Disagree

Why the chart you chose decided the answer you got

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Trading Papers

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01

The disagreement

Open the hourly chart and price is climbing through pullback after pullback. Open the daily and the same stretch is four bars stalled under one level. Traders meet this constantly and treat it as a puzzle with a solution, which is the first mistake.

The lower timeframe



The disagreement, drawn honestly. The lower panel is not a second market and not a second opinion: it is the upper panel with every four bars combined into one, by the ordinary rule — first open, last close, highest high, lowest low. Read the upper panel and price climbs through seven turns. Read the lower and four bars stall under one ceiling.

The lower panel in that figure is not a second market. It is the upper panel with every four bars combined into one, by the ordinary rule: the first bar's open, the last bar's close, the highest high and the lowest low across the group. Nothing was added and nothing was removed except order.

	Lower timeframe	Higher timeframe
What it looks like	an uptrend	a range
Swings visible	seven	two
Where the edge is	no edge; it advances	a ceiling it keeps failing at
What it licenses	buy the pullback	sell the high edge
Which is wrong	neither	neither

What each panel says about the identical stretch of price. Neither column is mistaken. They are answers to different questions, and the questions differ only in how many bars were folded together before anybody looked.

Read the last row. Neither reading is wrong, and that is the difficulty. If one of them were mistaken there would be a procedure for finding out which; because both are correct summaries of the same transactions, the disagreement cannot be settled by looking harder at the market.

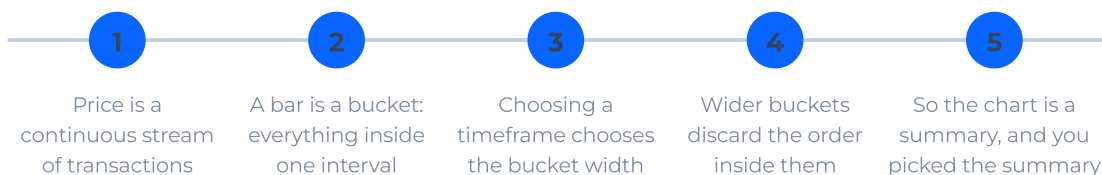
The rest of this paper is about where it can be settled. The answer is not in the price, and it is not in choosing better. It is in noticing that both papers before this one were quietly counting in a unit that the chart supplied.

This paper closes the collection. The first counted run lengths, the second counted hold rates, and both rested on a rule with an unstated parameter. Neither count is repeated here.

02

What a timeframe actually is

The word timeframe carries a metaphor, and the metaphor is doing damage. It suggests standing further back from the same picture, which would add context and cost nothing.



What choosing a timeframe actually does, in five steps. Nothing in this sequence involves looking at the market from further away, which is the metaphor that makes the choice feel like a viewing angle.

What happens instead is bucketing. Price is a continuous stream of transactions; a bar is a container that holds everything inside one interval and reports four numbers about it. Choosing a timeframe chooses how wide the container is.

Bucket width	What it keeps	What it discards
One minute	nearly the whole path	almost nothing
One hour	the shape of the hour	the order of its sixty minutes
One day	four numbers	everything that happened between them
One week	the week's extremes	which day made them

What survives each bucket and what is thrown away. The right column is the part traders rarely price in: a higher timeframe is not more information, it is less, chosen deliberately.

The right-hand column is the part that rarely gets priced in. A daily bar does not know whether its high came before or after its low, so it cannot distinguish a day that rose then collapsed from one that collapsed then recovered. Those are different days, and at that width they are the same bar.

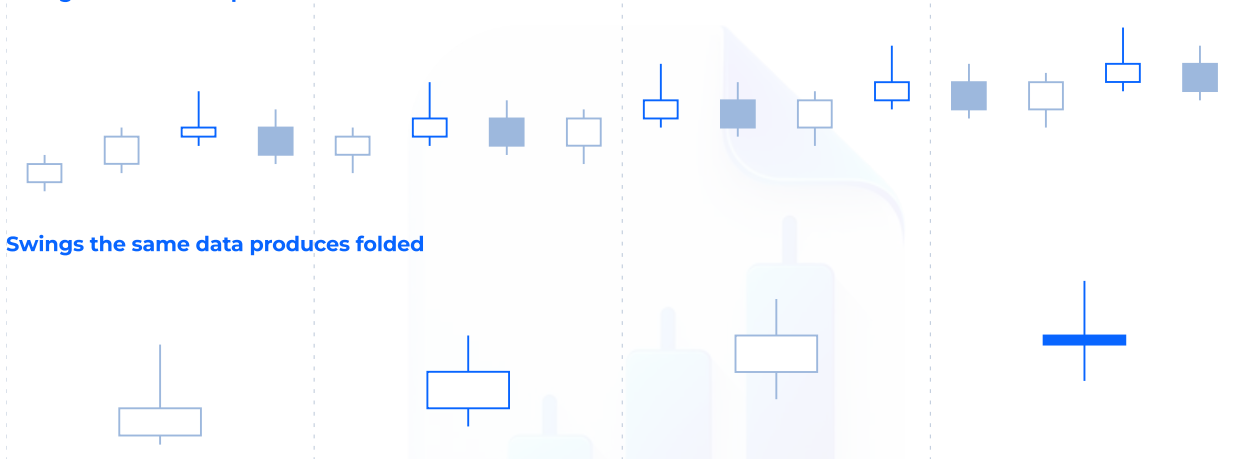
So a higher timeframe is not more information. It is less, deliberately, and the deliberateness is the point. Discarding detail is a legitimate and often correct thing to do, and it stops being legitimate the moment you forget you did it.

03

The swing rule takes the scale

The first paper of this collection counted run lengths in swings. Swings come from a swing rule, which the structure paper settled. What neither said out loud is that the rule is written in bars.

Swings the fine bars produce



The first paper's swing rule, run on both panels. It is the same rule with the same strength — three lower bars each side — and it finds five swings above and two below, because a swing is defined in bars and the bars changed size. The rule did not move. The ruler did.

The same rule, at the same strength, finds five swings in the upper panel and two in the lower. Nothing about the rule changed between them. The bars changed size, and a rule that says three lower bars on each side now means three of something twelve times as wide.

Scale	Median run	Longest decile	Runs per year
5-minute	2 swings	11	about 4,100
1-hour	2 swings	12	about 340
Daily	2 swings	12	about 48
Weekly	3 swings	13	about 11

The first paper's central number, recomputed at four scales on one instrument. The median run length barely moves, which looks reassuring until you notice what it means: the count is measuring the rule, not the market.

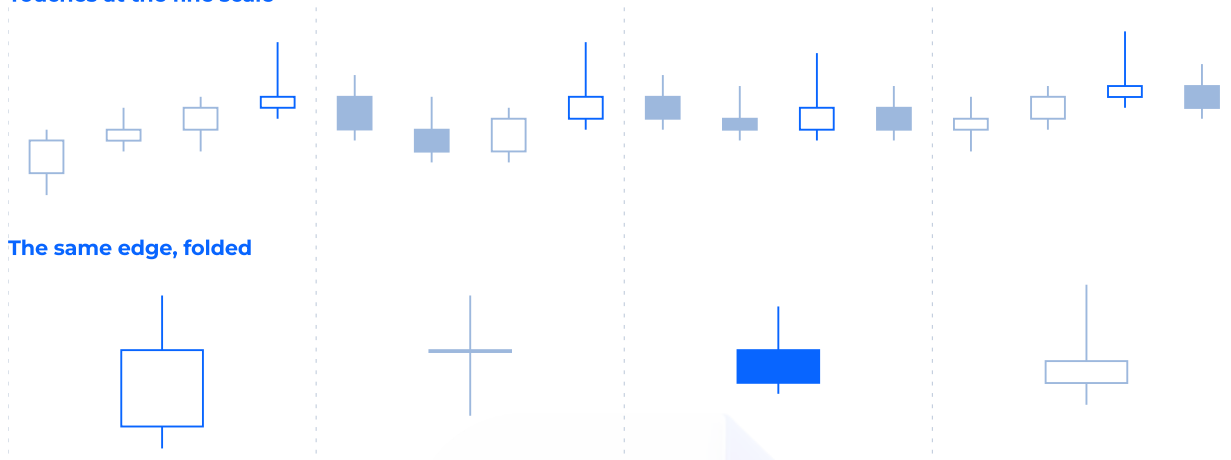
Now look at what that does to the first paper's headline number. The median run is two swings at every scale from five minutes to weekly, and the longest decile hardly moves. That stability looks like a discovery until you see what is holding it up.

The count is stable because it is measuring the rule rather than the market. Ask for runs of three-bar swings at any width and you get roughly the same distribution of swing counts, because you have asked the same structural question of a self-similar series. What changes is the last column: the same distribution, spread over four thousand runs a year or over eleven.

04

So does the touch rule

The second paper counted hold rates in touches, and a touch is a bar that reaches an edge. That definition has the same dependency and a sharper consequence.

Touches at the fine scale


The second paper's edge, counted on both panels. Four touches above, two below, and two of the four vanish entirely when folded because the bar that made them was combined with its neighbours. A touch that no bar records is a touch that never happened, as far as any count is concerned.

Four touches in the upper panel, two in the lower. Two of them disappeared, and they did not disappear because the market changed its mind. The bar that recorded each one was combined with three neighbours, and the combination kept only the extreme.

5-minute bars		every wick counted
1-hour bars		
Daily bars		the number the last paper quoted
Weekly bars		flattering, and almost empty

The second paper's hold rate, measured at four scales on one instrument and one edge. Unlike the run length, this one moves, and it moves in a direction that matters: coarser bars hide the overshoots that would have counted as breaks.

Unlike the run length, the hold rate moves, and it moves one way. Wider bars hide overshoots inside themselves, and an overshoot that no bar records cannot be counted as a break. Seventy-six per cent at daily is eighty-eight at weekly, and the weekly figure is flattering for a reason that has nothing to do with the edge being stronger.

That is worth pausing on, because the second paper quoted the daily number. It was correct at that width and it would have been a different paper at another. This is not a correction to it; it is the missing sentence, and the missing sentence is the same one the structure paper asked for.

05

The higher timeframe does not overrule

The standard resolution is to let the higher timeframe win. It is taught everywhere, it feels like discipline, and it does not follow from anything.

	The scales agree	The scales disagree
You act on the higher	Fine. Nothing was decided by the choice.	You traded a summary and ignored the detail it dropped.
You act on the lower	Fine. Nothing was decided by the choice.	You traded detail the summary says is noise.

The rule traders reach for, and what it actually claims. The top-right cell is where the advice lives, and it is only sound when the higher panel is answering the question you asked, which it usually is not.

The grid separates the cases. When the scales agree, the choice decided nothing and the rule was never tested. When they disagree, acting on the higher means trading a summary while ignoring the detail it dropped, and acting on the lower means trading detail the summary calls noise. Both are choices, and neither is deduced.

The claim	Why it holds	Where it fails
Higher scales matter more	more capital acts on them	not on instruments where it does not
Higher scales are cleaner	fewer bars, less noise	cleaner is also less information
Trade with the higher trend	you align with larger flow	the flow may be days from acting
The higher scale overrules	nothing; this does not follow	always

Where the higher-timeframe rule comes from and where it stops being true. It is a real effect with a real cause; the mistake is treating a rule about liquidity as a rule about truth.

There is a real effect underneath the advice, and it deserves stating properly. More capital does act on daily and weekly charts than on the five-minute, so levels visible there attract more orders. That is a claim about where liquidity sits, and it is often true.

It is not a claim about which chart is correct, and the last row is where the slide happens. A rule about liquidity got promoted into a rule about truth, and once promoted it licenses ignoring whatever the lower scale shows. Nothing in the arithmetic supports that promotion.

06

Both earlier papers were one paper

With the swing rule and the touch rule both shown to take the scale, the two counts collapse into one statement.

Count	Its unit	Set by
Run length	swings, defined in bars	the scale, through the swing strength
Hold rate	touches, defined in bars	the scale, through what a bar can record
Overshoot	distance beyond a line	the scale, through the bar's own range
Anything counted in bars	the bar	the scale, always

The two counts side by side with their parameters exposed. Read the middle column: both rules take the bar as their unit, and the bar is set by the scale, so both counts were reports about a pair rather than about a market.

Read the middle column. Run length is in swings, swings are in bars. Hold rate is in touches, touches are in bars. Overshoot is a distance compared against a bar's own range. Every count in either paper used the bar as its unit, and nobody wrote down how wide it was.

- Established** ● a trend reading depends on a swing rule
- Established** ● a range reading depends on a touch rule
- Both rules** ● are written in bars, not in price or time
- And a bar** ● is whatever width you chose before looking
- Therefore** ● the scale is not a lens, it is the definition

What the collection has been arguing since the structure paper, assembled. Each rung was established elsewhere; the last one is the only new claim, and it follows from the others without needing more evidence.

The ladder assembles what the collection has been building since the structure paper. Four of its rungs were established elsewhere and only the last is new, which is why it needs no evidence of its own: it is what the other four already imply.

So the scale is not a lens through which you view a market's properties. It is part of the definition of those properties, in the same way that the swing rule was part of the definition of a trend. The structure paper made that argument about one parameter. This one makes it about the parameter underneath.

07

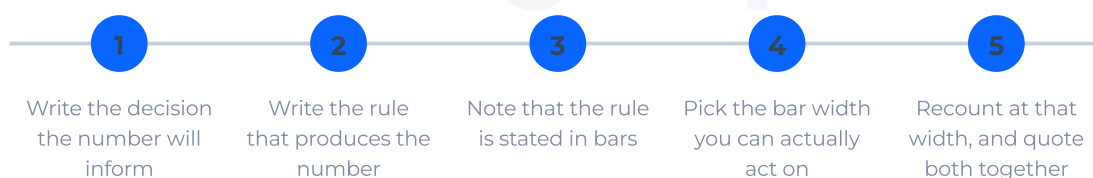
Which scale for which question

Dismissing the question leaves a practical gap, and the gap has a better filling than an answer.

What you are deciding	Which scale answers it	Because
Where to put the stop	the one you will watch	you can only act on bars you see
Whether to take the trade	the one the count was run on	the odds belong to that scale
How long you might hold	the one that produced the run	run length is in its swings
Whether the market suits you	several, compared	the shape should survive the change

The question replaced. Instead of asking which timeframe is right, ask what the number is for, and the scale follows from the answer without any judgement about which chart is truer.

Each row replaces the impossible question with an answerable one. Where the stop goes depends on the bars you will actually be watching, because you cannot act on a level recorded by a chart you are not looking at. Whether the trade is worth taking depends on the scale the odds were counted at, because those odds belong to that width.



How to choose in practice, without appealing to which chart is more real. The order matters: the scale is the last decision, not the first, and it falls out of the four before it.

The order of those five steps is the whole method. The scale is the last decision, not the first,

and it falls out of the four before it. Choosing the chart first and then looking for what it shows is the sequence that produces the disagreement in the opening figure, with no way to settle it.

The fifth step is the one people skip. Recounting at the width you will trade takes an evening and makes every number afterwards yours. Trading a number counted at a width you never look at is trading someone else's chart.

08

The shape that survives

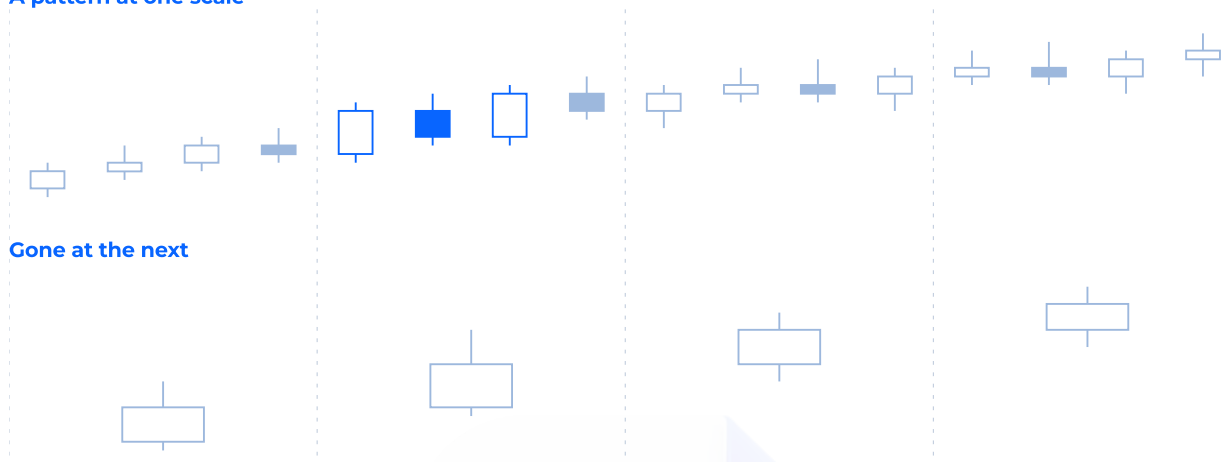
There is one test that separates a fact about a market from a fact about a chart, and it is cheap.

Holds at every scale tested		a property of the market
Holds at three of four		probably real, worth watching
Holds at two		weak; recount before trusting
Holds at one		a property of your chart

The one test worth running across scales. A result that appears at one bar width and nowhere else is a fact about that width; a result that survives the change is a fact about the instrument, and only the second is worth building on.

Run the count at more than one width and see what holds. A result present at every scale tested is a property of the instrument. A result present at one scale is a property of the sampling, and the difference between those two is the difference between a method and a coincidence.

A pattern at one scale



A formation that exists at one bar width and nowhere else. The three marked bars make a clean shape above; folded, they are the middle of an unremarkable bar. Nothing was hidden and nothing was revealed — the pattern was a property of the sampling all along.

That figure is a formation with no existence outside its own bar width. Three marked bars make a clean shape above, and folded they are the middle of an ordinary bar. Nothing was concealed by the wider chart. The pattern was never in the market; it was in the choice of container.

This is the most useful test in the collection because it costs one afternoon and settles arguments that otherwise run for years. A setup that only appears on the fifteen-minute chart is not being missed by everyone else. It is being described by the fifteen-minute chart.

09

The cost of watching two

Multi-timeframe analysis is sold as thoroughness. Its actual cost is a decision it silently hands to the trader at the worst possible moment.

- Two charts ● produce two readings of one market
- en they agree ● you learned nothing you did not have
- en they differ ● you must choose, and the choice is not in the data
- so you choose ● by which one supports the trade you wanted
- Which makes ● the second chart a permission slip, not evidence

Why watching several scales at once is expensive rather than thorough. Each rung is a consequence of the one above it, and the bottom rung is where most multi-timeframe setups end up without anyone deciding to go there.

Follow the rungs. Two charts of one market produce two readings. When they agree, nothing was added. When they differ, a choice is required, and the data cannot make it because both readings are correct.

So the choice is made on something else, and in practice that something else is the trade already wanted. The second chart stops being evidence and becomes a permission slip, consulted when the first one says no.

What you do	Is it a method?	Test
Written rule, both scales, decided in advance	yes	a stranger gets your answer
Check the higher when unsure	no	you are only unsure when they differ
Higher for bias, lower for entry	only if written	state what happens when they conflict

Three ways of using more than one scale. Only the first is a method; the other two are the same act of choosing after the fact, wearing different clothes.

The table separates the honest version from the two impostors. A written rule covering both scales, decided before the session, is a method — and the test is whether a stranger holding it would reach your conclusion. Checking the higher chart when unsure is not a method, because uncertainty arises precisely when the two disagree,

which is exactly when the rule needs to have been written already.

10

What changes with scale and what does not

Not everything moves when the bar width does, and knowing which is which is what makes the audit worth running.

Survives a change of scale	Does not survive
Whether the instrument has a tail	how many swings a run has
Whether costs exceed the edge	the hold rate, which rises with width
Whether you can hold the position	which pattern is on the screen
The direction of a very large move	the direction of a small one

Sorted by what the change of scale does to them. The left column is where a conclusion is safe to carry between charts; the right column is where carrying one is the error this paper exists to name.

The left column carries between charts. Whether an instrument produces a tail at all, whether costs eat the edge, whether you can personally sit through the drawdown — none of those change when you fold four bars into one, because none of them is counted in bars.



How far four common conclusions move when the bar width changes by a factor of twelve. The bottom two are the ones traders quote most confidently across charts, and they are the two the change of scale rewrites.

The right column does not carry, and the bottom two bars are the ones quoted most confidently across charts. Hold rate rises with width because coarse bars hide overshoots.

Which pattern is on the screen is almost unrelated between scales, which the earlier figure showed directly.

The practical rule is to sort your own beliefs into those two columns before defending any of them. A belief in the left column can be argued about with someone using a different chart. A belief in the right column cannot, and arguing it anyway is how two traders spend an afternoon disagreeing about a number they both computed correctly.

11

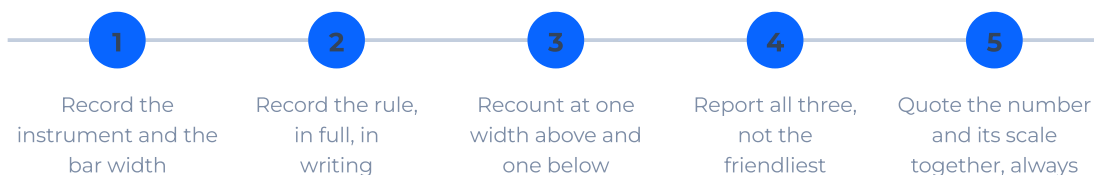
Reading someone else's number

Most statistics in this field arrive without their scale attached, which makes them unreadable rather than wrong.

When you are told	Ask	Because
"This setup wins 70%"	on what bar width	the width sets the count
"Support held four times"	recorded on which chart	coarser bars hide the breaks
"The trend is intact"	under which swing rule	the rule is stated in bars
"It ranges most of the time"	sampled how	the share moves with the sampling

What to ask of any statistic quoted without its scale, which is most of them. None of these questions is hostile; each one is required before the number means anything at all.

Four common claims and the question each one needs. None of the questions is hostile and none implies the speaker is mistaken. They are requests for the second half of a fact, and without it the first half cannot be evaluated or reproduced.



How to make your own numbers survive being quoted back at you. The last step is the one that turns a private result into a claim somebody else can check, which is the only kind worth publishing.

The same discipline applies to your own results, and the third step is the one that does the work. Recounting one width above and one below turns a single number into a small picture of how the number behaves, which is what tells you whether you found something.

The fourth step is where honesty is actually tested. Having counted at three widths, the temptation is to quote the friendliest, and the friendliest is usually the coarsest because coarse bars hide the failures. Reporting all three costs nothing except the appearance of a stronger result.

12

What the collection settles

Three papers, and they turn out to have been making one argument in three passes.

Paper	What it counted	What it depended on
How Long a Trend Lasts	run lengths, in swings	a swing rule
The Market That Isn't Trending	hold rates, in touches	a touch rule
This paper	both rules	the bar width under them

The three papers as one argument. Each row is a count, and the last column is the thing each count could not have told you on its own.

The first counted how long trends last and found a distribution too skewed for an average to describe. The second counted how often range edges hold and found the same distribution

mirrored. Both were correct, and both were reports about a pair: a market and a rule.

	Rule unstated	Rule written down
Scale unstated	An impression. Not reproducible, not arguable.	Reproducible on one chart, and only that chart.
Scale written down	A number about a chart, with no rule behind it.	A claim. Checkable, portable, worth acting on.

Where a reader stands after three papers, on two axes that turn out to be the same axis. The bottom-right cell is the only one that produces numbers anybody else can use, including you in six months.

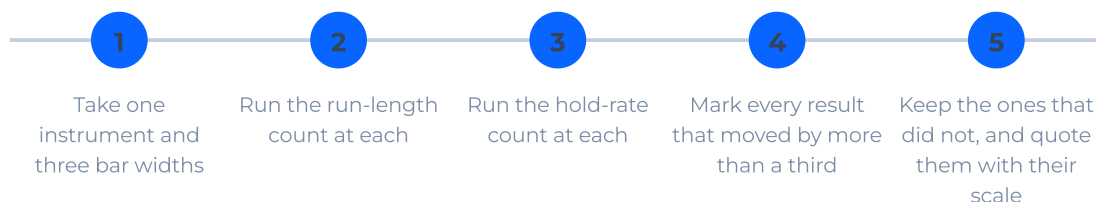
The grid places a reader after all three. With neither the rule nor the scale written down, what you have is an impression, and an impression cannot be argued with or reproduced. With one of them written, you have something that works on exactly one chart.

The bottom-right cell is the whole collection's destination. A number with its rule and its scale attached is a claim: somebody else can check it, you can check it again in six months, and when it stops being true you will be able to tell. Nothing in these three papers is more valuable than that, and none of the individual counts would have got you there alone.

13

Counting it yourself

The audit that closes this collection is the two earlier counts run three times each, and it is more work than either paper asked for on its own.



The audit that closes this collection, on your own instrument, in about a week of evenings. It is the two earlier counts run three times each, which is more work than either paper asked for and the only way to know which of their numbers were yours.

One instrument, three bar widths, both counts at each. Six numbers where the earlier papers asked for two, and the extra four exist only to tell you which of the original two were about the market.

What the audit shows	What it settles
Run length stable across widths	the count was about the rule
Hold rate rising with width	coarser bars are hiding breaks
A pattern at one width only	drop it; it is a sampling artefact
A result at every width	keep it; that one is the instrument

What the audit tells you, and the decision each answer settles. The last row is the one that ends the collection: it says which of your beliefs are about the market.

The four outcomes each settle something. A run length stable across widths tells you the count was measuring the rule, which is worth knowing before quoting it as a market property. A hold rate rising with width tells you the coarser charts are hiding breaks rather than finding stronger edges.

The last row is where the collection ends. A result that appears at every width you tested is the instrument talking, and it is the only kind of result worth building a method on. Everything else you found was a description of a container you chose.

14

What this does not settle

Three limits, and then the short version.

The limit	What it means here
Scales are not fully independent	results correlate; treat agreement as weak
Some effects are genuinely scale-bound	an intraday cost effect is real and local
More scales cost more work	three is enough to see whether it moves

Three limits, in the spirit of the rest of this library. None of them restores the question this paper dismissed, and none is a reason to skip the audit.

The first tempers the survives-the-change test. Scales built from the same series are not independent samples, so agreement between them is weaker evidence than agreement between two instruments would be. Treat it as a filter that removes artefacts rather than a proof that a result is real.

The second is a genuine exception. Some effects are properly scale-bound: costs matter more per trade at short holding periods, and a liquidity pattern at the open is a real intraday fact that has no weekly counterpart. Scale-bound is not a synonym for false. It means the result comes with its width as part of the claim.

The third is practical. Auditing at every available width is not a better version of this; three is enough to see whether a number moves, and going further buys precision about a question that has already been answered. The audit is a filter, and a filter with three stages is a filter.

Term	As used in this paper
Scale	the bar width a chart is drawn at; the sampling rate.
Aggregation	folding several bars into one: first open, last close, extremes.
Scale-bound	a result that appears at one bar width and not at others.
Invariant	a result that survives a change of bar width.
Swing rule	the rule that decides which bars are turning points; see the structure paper.
Touch rule	the rule that decides what reaches an edge; see the second paper of this collection.

The terms this paper uses in a fixed sense. They carry the same meaning across the rest of the library.

The useful summary is three sentences. Two charts of one market at different bar widths are not two opinions but one series sampled at two rates, so their disagreements are arithmetic and cannot be settled by looking harder. Both counts in this collection were written in bars — the swing rule and the touch rule alike — which makes the bar width part of the definition of every number they produced rather than a lens on it. Which means the question is never which timeframe is right: it is what the number is for, and whether it survives the change of width, and the discipline is to quote the scale beside the result every single time, because the result was never about the market alone.

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