

A One-Hour Timestamp Shift Manufactures a Prediction That Does Not Exist [F042]

With correct timestamps, none of the twelve pairs can call the next hour (0 pairs reach a daily t of 2 in absolute value) — shift only the summer by one hour and all twelve do — and the shifted summer values match the same-hour values to 0.000000

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Abstract

What this paper asks is how much of a prediction that does not exist gets manufactured when one of two data sources is shifted by an hour in summer — and the answer is that zero pairs become all twelve. No new mathematical theorem and no new law is claimed.

First, **with correct timestamps there is no power to call the next hour.** The twelve pairs give a median D of **-0.0363** pips, and **0** of them reach a daily t of 2 in absolute value (Section 3).

Second, and this is the core of the paper: ★ **shift only the summer by one hour and all twelve exceed 2.** EURUSD → GBPUSD reaches **27.5623** and GBPUSD → EURUSD **28.5147** (Section 3).

Third, **winter is unchanged.** The winter difference (shifted – correct) has a maximum absolute value of **0.000000**. ★ **Only summer was touched, so this follows. A check, not a finding** (Section 4).

Fourth, ★ **the shifted summer value is the same-hour value itself.** In all twelve pairs the absolute difference is **0.000000**. **What was taken for the next hour was the same hour** (Section 5).

Fifth, ★ **so the sign follows the contemporaneous correlation.** USDJPY → XAUUSD gives **-8.6852** and EURUSD → XAUUSD **9.3861** pips. **The direction of the "prediction" is merely the direction of the same hour** (Section 5).

Sixth, ★ year by year, 6 of the 12 pairs come out positive in all six years. With correct timestamps it is 0. "Profitable in six years out of six" is manufactured by the shift alone (Section 6).

Scope of this paper: no new mathematical theorem and no new law is claimed — daylight saving time, timestamp matching and contemporaneous correlation are all known. **No real course, author, or vendor is the subject here, and none is named. No real data provider is the subject** — the shift was introduced deliberately here, and no claim is made that any provider is shifted (Section 7). **No trading is discussed** — neither cost nor slippage is included, and everything is on mid prices (Section 7). **No prediction is claimed to exist** — the next hour is zero with correct timestamps, and this paper merely confirms it (Section 3). **One form of shift is fixed** — the European summer period only, by one hour (Section 7). **The scope is intraday and few instruments** — four instruments over six years on one-hour bars. Results documented at longer holding periods, such as monthly time-series momentum, are not contradicted. **No prediction is claimed.**

1. Notation and the question

When two data sources are matched, one of them has sometimes been in local time.

What gets said	What does not get said
One of them predicts the other an hour ahead	Whether the two timestamps follow the same convention
It was profitable in every year	Whether summer and winter differ
The t is large, so it is solid	That a large t can be made by a shift

Observation 1.1: ★ Local time in a region with daylight saving is one hour off from Coordinated Universal Time in summer only. In winter they agree.

Observation 1.2: ★ Ask for "the next hour" then, and in summer you get "the same hour". Contemporaneous correlation is strong, so something that is not a prediction looks like one.

Observation 1.3: The separator is how the timestamps are handled. The data, the quantity, the pairs and the period are all held fixed, and **only whether the summer reference is moved back one bar is changed.** That a choice of convention can manufacture an answer was measured in [F040], and the effect of the reference point in [F041].

Question: with a one-hour shift in summer only, how much of a prediction that does not exist gets manufactured?

2. State the quantities and the design first

Declared before the run and unchanged during it.

Grid	1-hour bars (mid price, completed bars only), timestamps in UTC
Leader	The sign of that hour's move
Follower	The next hour's move (pips)
Shift	During European summer time (last Sunday of March 01:00 UTC to last Sunday of October 01:00 UTC) only, the follower's reference is moved back one bar (making it the same hour)
Pairs	Twelve ordered pairs from four instruments
Quantities	$D = \text{the mean of (leader's sign} \times \text{follower's move) in pips, daily } t, \text{ count}$
Same hour	For comparison, the follower's same hour move is measured as well
Separator	How the timestamps are handled (correct, or shifted an hour in summer)
Instruments and period	USDJPY, EURUSD, GBPUSD, XAUUSD / 2019–2024

Observation 2.1: ★ The shift was introduced deliberately here. No claim is made that any provider is shifted. What is measured is what happens if one is.

Observation 2.2: Only timestamps common to the pair are used. For USDJPY → EURUSD that is **36,106** bars, of which the summer share is **0.5802**.

Observation 2.3: ★ The leader's sign is the direction from open to close of that hour. The bar is complete, so looking at the next hour involves no look-ahead.

Observation 2.4: All twelve ordered pairs are measured. ★ Swapping leader and follower counts as a separate pair.

Predictions (written before measuring)

- ① With correct timestamps, **the next-hour prediction is zero.**
- ② Shifting only the summer makes **the summer value strongly positive** while winter is unchanged.
- ③ Pooling summer and winter, it still **comes out positive.**
- ④ The shifted summer value **matches the same-hour value closely.**
- ⑤ Year by year, **most years come out positive.**

3. Correct timestamps against a one-hour summer shift

The same data and the same quantity. Only the summer reference differs.

Calculation 3.1 The twelve ordered pairs

Leader → Follower	Correct D	Correct t	Shifted D	Shifted t
USDJPY → EURUSD	−0.0073	−0.2899	−1.5362	−17.8202
USDJPY → GBPUSD	−0.0264	−0.7194	−1.8679	−15.2583
USDJPY → XAUUSD	−0.0054	1.3851	−5.3203	−11.7157
EURUSD → USDJPY	0.0324	1.5019	−1.9923	−14.6412
EURUSD → GBPUSD	−0.1260	−0.9503	3.5583	27.5623
EURUSD → XAUUSD	−0.3250	−1.6847	5.5340	13.6119
GBPUSD → USDJPY	0.0951	1.4962	−1.6107	−10.8203
GBPUSD → EURUSD	−0.0463	−0.1187	2.5690	28.5147
GBPUSD → XAUUSD	−0.2287	−1.2349	4.8788	11.2282
XAUUSD → USDJPY	0.0614	1.8093	−2.0629	−11.7241
XAUUSD → EURUSD	−0.0785	−1.5087	1.5967	16.9711
XAUUSD → GBPUSD	−0.1207	−1.5175	1.9406	13.5275

Observation 3.2: Prediction ① held. With correct timestamps the median D is **−0.0363** pips and **0** of the 12 pairs reach a daily t of 2 in absolute value.

Observation 3.3: ★ This is the core of the paper. Shift only the summer and all twelve exceed 2. The largest is **GBPUSD → EURUSD** at **28.5147**, followed by **EURUSD → GBPUSD** at **27.5623**.

Observation 3.4: ★ Not one pair is an exception. From 0 of 12 to 12 of 12, by the shift alone.

Observation 3.5: The size of D changes by an order of magnitude too. With correct timestamps it runs from **−0.3250** to **0.0951** pips; shifted, from **−5.3203** to **5.5340**.

Observation 3.6: ★ The median, however, is only 0.0303 pips. The signs split across pairs. Looking only at one pooled number, the anomaly is invisible.

4. Splitting summer from winter

Only summer was shifted. Winter was not touched.

Calculation 4.1 Median of the twelve pairs

	Summer, correct	Summer, shifted	Winter, correct	Winter, shifted
Median of twelve pairs	− 0.0109	0.0550	− 0.0957	− 0.0957

Observation 4.2: The winter difference (shifted – correct) has a maximum absolute value of 0.000000. ★ Winter was not touched, so this follows: a check, not a finding.

Observation 4.3: ★ The summer difference has a median of 0.0887 and a range of −8.7858 to 9.6806. The sign and the size differ completely by pair.

Observation 4.4: ★ So "summer and winter differ" makes it visible. USDJPY → XAUUSD gives −8.6852 in summer and −0.1612 in winter.

Observation 4.5: Conversely, report one pooled number and it stays invisible. ★ The median is 0.0303 pips against −0.0363 with correct timestamps: hardly different.

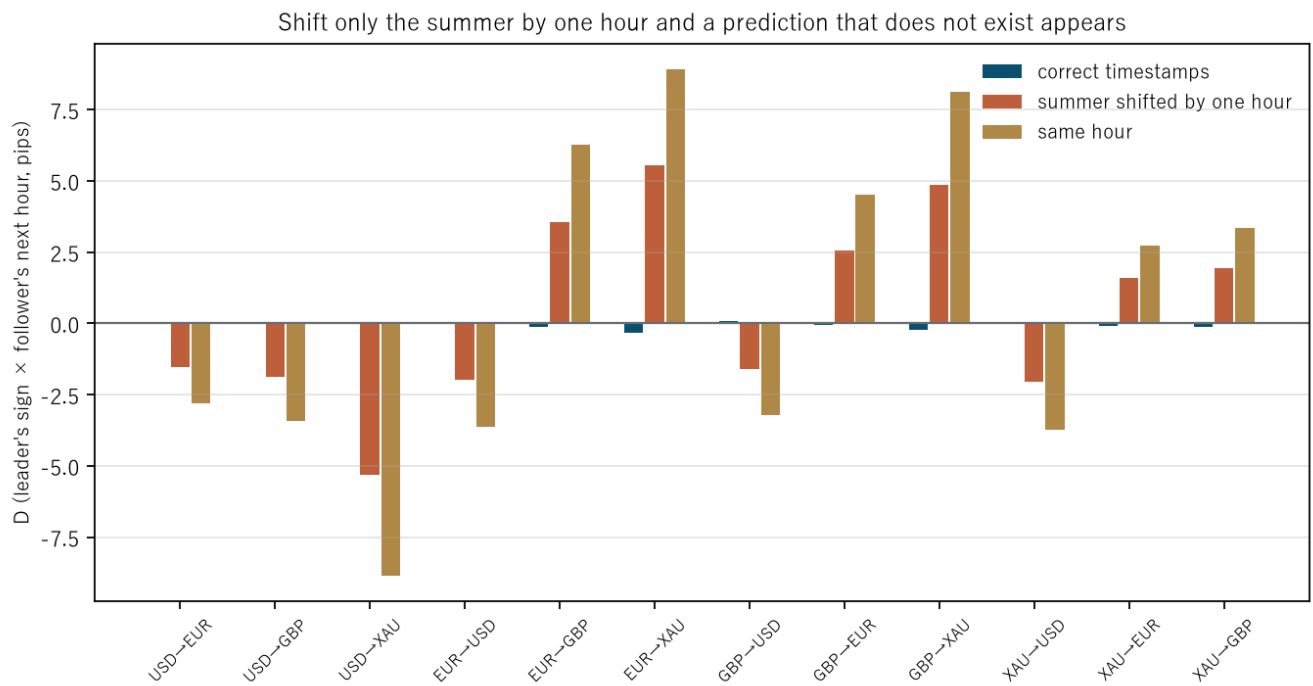


Figure 1: D (leader's sign $\times$ follower's next hour, pips) for the twelve ordered pairs. **From the left: correct timestamps, summer shifted by one hour, and the same hour.**

5. What the shifted value is a copy of

The shifted summer is placed beside the same-hour value.

Calculation 5.1 Summer values against same-hour values

Leader → Follower	Summer, shifted	Same hour	Difference
USDJPY → EURUSD	− 2.6183	− 2.6183	0.000000
USDJPY → XAUUSD	− 8.6852	− 8.6852	0.000000
EURUSD → GBPUSD	6.1925	6.1925	0.000000
EURUSD → XAUUSD	9.3861	9.3861	0.000000
GBPUSD → XAUUSD	8.3689	8.3689	0.000000
XAUUSD → GBPUSD	3.2700	3.2700	0.000000

Observation 5.2: ★ In all twelve pairs the absolute difference is 0.000000. The shifted summer is the same-hour value itself.

Observation 5.3: ★ What was taken for the next hour was the same hour. Prediction ④ held. It follows from the design, so this is a check.

Observation 5.4: ★ So the sign follows the contemporaneous correlation. USDJPY → XAUUSD gives −8.6852 and EURUSD → XAUUSD 9.3861 pips. The direction of the "prediction" is merely the direction of the same hour.

Observation 5.5: Over the whole period the same-hour D has a median of −0.0306 pips and a daily t of −0.5136. ★ Pooling summer and winter splits the signs and shrinks it, so the size shows only pair by pair.

6. Year by year

Can "profitable in N years out of N" be manufactured by the shift alone?

Calculation 6.1 Yearly medians and the number of positive pairs

Year	Correct, median	Correct, positive pairs	Shifted, median	Shifted, positive pairs
2019	0.0403	7	0.0536	6
2020	− 0.0866	2	0.3131	6
2021	− 0.0265	6	0.2519	6
2022	− 0.1977	5	0.1736	6
2023	− 0.0388	3	0.1360	6
2024	0.0162	6	0.0033	6

Observation 6.2: ★ Pairs positive in all six years number 6 of 12 when shifted and 0 of 12 when correct. Prediction ⑤ held.

Observation 6.3: ★ "Profitable in six years out of six" is manufactured by the shift alone — and for half the pairs.

Observation 6.4: Of the 72 year-pair combinations, 29 are positive with correct timestamps and 36 when shifted. ★ The overall share barely differs. What does the work is the consistency: the same pairs stay positive.

Observation 6.5: The shifted version has exactly 6 positive pairs in every one of the six years. ★ The yearly median moves from 0.0033 to 0.3131, yet which pairs are positive does not move at all.

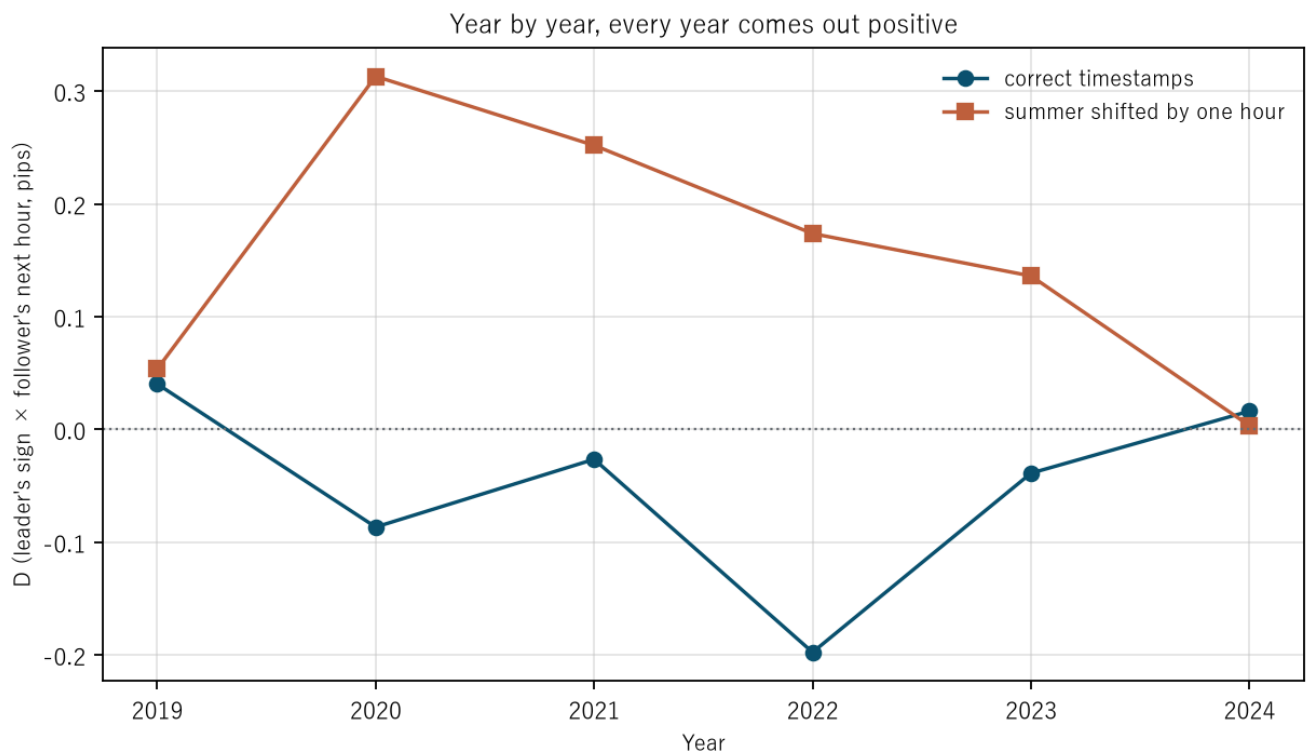


Figure 2: year on the horizontal axis and the median D across the twelve pairs (pips) on the vertical. Circles are correct timestamps and squares are the summer shifted by one hour. The dotted line is 0.

7. Limitations

1. **⚠ The shift was introduced deliberately here.** No claim is made that any provider is shifted.
2. **One form of shift is fixed:** the European summer period only, by one hour.
3. **One quantity is fixed:** the leader's sign $\times$ the follower's next hour, and nothing else.
4. **One grid is fixed.** On one-hour bars the shift is exactly one bar. **On another bar size it would act differently.**
5. **No trading is discussed.** Neither cost nor slippage is included, and everything is on mid prices.
6. **Contemporaneous correlation itself is not the subject.** Neither its size nor its mechanism is measured.
7. **That the next hour is zero with correct timestamps is merely confirmed here.** That is already known.

8. **Four instruments, six years, one-hour bars.** Nothing is claimed about other markets or other periods.

Conclusion

When two data sources are matched, one of them has sometimes been in local time. **In a region with daylight saving, that means one hour off in summer only.**

With correct timestamps there is no power to call the next hour. The twelve pairs give a median D of **-0.0363** pips, and **0** of them reach a daily t of 2 in absolute value.

★ **Shift only the summer by one hour and all twelve exceed 2. The largest is 28.5147 and the next 27.5623. From 0 of 12 to 12 of 12, by the shift alone, with not one exception.**

★ **And the shifted summer value is the same-hour value itself.** In all twelve pairs the absolute difference is **0.000000**. **What was taken for the next hour was the same hour.**

★ **So the direction of the "prediction" is merely the direction of the same hour.** USDJPY → XAUUSD gives **-8.6852** and EURUSD → XAUUSD **9.3861** pips: **the sign follows the contemporaneous correlation.**

★ **Year by year, 6 of the 12 pairs come out positive in all six years. With correct timestamps it is 0. "Profitable in six years out of six" is manufactured by the shift alone, and for half the pairs.**

There is a place where it shows and a place where it does not. ★ **Split summer from winter and USDJPY → XAUUSD reads -8.6852 against -0.1612 pips at a glance. But the median across the twelve pairs is 0.0303 pips against -0.0363 with correct timestamps. Look only at one pooled number and the anomaly disappears.**

So when two sources are matched, the first thing to do is to lay summer and winter side by side. ★ And a large t is not evidence of solidity. A shift can make one.

Data and reproduction

Data	Foreign exchange from Dukascopy-derived ticks (from 2019 onward, matching to the millisecond, bid and ask, has been verified). Gold from Dukascopy
Period	2019–2024 (six years)
Instruments	USDJPY, EURUSD, GBPUSD, XAUUSD (twelve ordered pairs)
Bars	1-hour, mid price, completed bars only, timestamps in UTC. Bars with no ticks are not created
Alignment	Only timestamps common to the pair (36,106 bars for USDJPY → EURUSD, summer share 0.5802)
Leader	The sign from open to close of that hour
Follower	The next hour's move (pips)
Shift	During European summer time (last Sunday of March 01:00 UTC to last Sunday of October 01:00 UTC) only, the follower's reference is moved back one bar
Quantities	D = the mean of (leader's sign $\times$ follower's move), daily t , count
Verification	<code>検算/F042.py</code> (<code>--zu</code> also writes the figures). Every number in the text comes from <code>検算/F042_output.txt</code>
Figures	<code>図/F042_zu1</code> , <code>図/F042_zu2</code> (png, svg, English versions)
Substrate check	<code>_ツール/auditBars.py</code> (bar look-ahead, daylight saving, day boundary). The record is <code>_土台の検査.txt</code>

References

- Yamagishi, Y. (2026). A Renko Turning Point Is Not a Turning Point Until the Brick Completes [F040]. Zenodo. 10.5281/zenodo.22894529
- Yamagishi, Y. (2026). The Bias in a Minute-Rounded Record Belongs to Whether the Recorder Reacted [F041]. Zenodo. 10.5281/zenodo.22894667