

# Cycles

March 2009

Sample answers for STA students

1. How would you define a cycle?
  - a. Rhythmic behaviour
  - b. Recurring event.
  - c. Period to completion.
2. What is the general purpose of biological cycles?
  - a. To extend life, by allowing a system to recuperate.
3. Does this give you any insights into the phenomena of bear markets and recessions?
  - a. May be an inevitable part of financial and economic activity.
  - b. May have a productive purpose.
4. What is the difference between a trend and a cycle?
  - a. A cycle oscillates around a trend which may be up or down.
  - b. A trend is derived from a higher-order cycle.
5. If there are cycles in economic and financial market activity, what simple tools could you use to find them?
  - a. Momentum indicators.
  - b. Deviation from moving averages.
6. What would you actually be looking for?
  - a. Extremes in momentum.
  - b. Patterns in momentum.
7. If cycles exist, can financial market price behaviour be random?
  - a. It depends on your time horizon.
  - b. Short-term movements are random, longer-term movements are not.
8. What is meant by “left and right translation” in cycle analysis?
  - a. Left translation means the peak occurs towards the beginning of a cycle.
  - b. Right translation means the peak occurs towards the end of a cycle.
9. Under what circumstances might left translation occur? And right translation?
  - a. All cycles have their own ‘footprint’. Left or right translation may be part of the natural mechanics. But...
  - b. Left translation can indicate that the higher-order trend is probably down.

- c. Right translation can indicate that the higher-order trend is probably upwards.
- 10. Does this make any difference to the way that you might search for cycles?
  - a. It is often more accurate to measure and track cycles from trough to trough.
  - b. You can use peak to peak measurements to confirm the cycle periodicity and/or to give you an indication (via translation) of what might be happening at the trend level.
- 11. What is the relationship between a cycle in momentum and the level of the corresponding index?
  - a. The cycle in momentum precedes the level of the index.
  - b. The lead time can be as much as one-third of a cycle's length.
- 12. Can you use this knowledge to tell you anything about turning points in the level of the index/price that you are tracking?
  - a. The historical lead time from momentum to the index can give you an indication of the timing of the eventual inflexion point.
  - b. The lead time should be mathematically related to the length of the cycle itself.
  - c. The lead time can confirm the validity of the cycle.
- 13. Where would you expect momentum non-confirmations to occur?
  - a. Non-confirmations occur at cycle peaks and troughs.
  - b. These are the only times when you can rely on non-confirmations.
- 14. Where would you expect momentum to accelerate sharply? And decelerate sharply?
  - a. Acceleration occurs just after a major low.
  - b. Deceleration occurs just after a major high.
  - c. Acceleration and deceleration confirm the cycle's periodicity.
- 15. What might such accelerations and decelerations tell you about the state of underlying conditions?
  - a. Market is genuinely overbought (at top) or oversold (at low)
  - b. Producers/retailers are overstocked (at economic peak) or understocked (at recession low)
- 16. If you thought that you had found an important cycle, how would you track it in real time?
  - a. Could calculate historical average of momentum and track current momentum against average.
- 17. If actual behaviour deviated from what you expected on the basis of your research, what would that tell you?

- a. It could mean that the cycle was incorrectly specified.
- b. It could mean that a higher-level cycle was operating.
- c. It could mean unexpected shocks to which the system has to adjust.
- d. Above all, it is an item of information.