

## MCM Perspective

### OVERCONFIDENCE BIAS TEST

In practicing an approach that embraces concentration, one must be very careful to guard against the natural human tendency towards overconfidence. A bad decision in a concentrated portfolio could severely impede the compounding of the overall portfolio. MCM's concentrated approach and the heavy reliance on the use of filters reflects an understanding of the limitations of the human mind. We share the belief that *intuition often leads one astray in an environment of uncertainty*, often resulting in biased and irrational decision-making. There are numerous classifications of mental shortcuts, or heuristics, which are pertinent for decision-makers, but the *tendency for people to be overconfident* is quite relevant in this context. To make the point, please answer the following questions by writing down your best estimate of the answer. Put an upper and lower bound around your estimate such that you are **90% confident** the correct answer falls within this "confidence range."

<u>Estimate</u>	<u>Range</u>	
_____	_____	1. The weight of an Olympic gold medal (in ounces).
_____	_____	2. The number of barrels of oil Exxon-Mobil produces every day.
_____	_____	3. The average number of babies born each day in the United States.
_____	_____	4. Total number of square miles in Lake Michigan.
_____	_____	5. The greatest speed at which the earth rotates on its axis (in mph).
_____	_____	6. The percentage of worldwide water supply that is fresh water.
_____	_____	7. The average annual snowfall (inches) in Anchorage, Alaska.
_____	_____	8. The number of genes in a human.
_____	_____	9. The number of American Express cards in circulation (9/30/08).
_____	_____	10. The number of McDonald's restaurants worldwide (9/30/08).

Obviously, these questions were intentionally difficult and subject to a large degree of uncertainty. How many of the answers do you think actually fell within your prescribed range? If 2 or more answers (out of 10 questions) did not fall within your estimated range, you were subject to overconfidence. After all, the ranges were to be set so that you were 90% confident the answer would fall in your range. For most people, the correct answers fall within the presumed ranges 30–70% of the time. It seems the overwhelming majority of people *fail* to fully compensate for their uncertainty in setting the ranges. Indeed, one of the key tenets of the overconfidence bias is that *the level of confidence does not fall enough to compensate for an increase in uncertainty*. This effect gets dramatically stronger as the level of uncertainty increases.

The overconfidence bias has profound implications for diversification and equity strategy. Think for a moment about the difficulty in determining the intrinsic value of a business (intrinsic value being the net present value of all future cash flows). The derivation of intrinsic value requires a forecast of the future and the future is filled with uncertainty. Simple logic would suggest that the potential for error in the calculation of intrinsic value is much greater for businesses that are relatively unpredictable. Since we know the overconfidence bias is endemic to the human condition (some of us are more susceptible than others!) it makes intuitive sense to *concentrate* on businesses where the level of uncertainty regarding future prospects is on the low side and our understanding of the business is on the high side. We simply have no means to *reliably* incorporate and compensate for the additional level of uncertainty present in businesses that are more complex and/or changing rapidly.

Here are the answers: 1) 9.0 ounces; 2) 2.3 Million; 3) 10,800; 4) 67,900 square miles; 5) 1,000 mph; 6) 3%; 7) 68.5 inches; 8) 35,000; 9) 92.1 million; 10) 31,677.