

## EVOLUTION OF COOPERATION (February 2004)

### *Instability within an industry can create the conditions for improved future returns*

In the 1980s, Robert Axelrod, an American political scientist and author of *The Evolution of Cooperation*, invited game theory experts to participate in repeated rounds of the best known problem in their field – the prisoner’s dilemma game<sup>1</sup>. Axelrod found that a policy of ‘tit for tat’, or reciprocity, was the most successful strategy to adopt in the long run. He pointed to an intriguing example of ‘tit for tat’ in the trenches of World War I. When stationed for long periods opposite each other, unspoken truces emerged spontaneously between British and German troops. If either side reneged on the compact, revenge would be exacted by the injured party, after which the truce would return.

From an investor standpoint, a similar kind of cooperation in basic industries is crucial to shareholder value creation. The trick is to identify conditions where co-operative behaviour can exist or may evolve, whilst avoiding those industries where this is unlikely to happen. For contrarian investors, a history of poor returns in an industry can represent a huge asset, since co-operative behaviour is more likely to break out if companies are responding to the imperative of balance sheet repair. Just as Hyman Minsky, the US economist and author of *Stabilizing an Unstable Economy*, observed that financial stability is destabilising since it leads to all kinds of excessive behaviour, so instability can, from a capital cycle standpoint, create conditions of stability.

The ideal capital cycle opportunity for us has often been one in which a small number of large players evolve from a situation of excess competition and exert what is euphemistically called “pricing discipline”. Having a small number of players is important, since retaliation (say a price cut) is likely to be a more powerful weapon in the hands of a dominant price setter, although barriers to entry are also required to deter opportunistic entrants from taking advantage of any price umbrella.

Certain industries having evolved oligopolistic industry structures, have a potentially favourable capital cycle, and yet persist in generating poor returns. Partly, this is because “tit for tat” is only likely to work where the strategy can be properly discerned. In the auto industry, for example, there is too much noise in the everyday competitive battle. Car makers have to decide not just on price, but also on specification, customer financing terms, rate of new model launches, service and warranty terms etc., leading to the paradoxical conclusion that product differentiation can be an impediment to achieving supernormal returns. Contrast this with the steel or paper producer, whose product is relatively undifferentiated.

Politics can also hinder the operation of the capital cycle. In the European auto industry, for instance, Volkswagen has for many years pursued a market share strategy. At VW, the agenda of the State of Lower Saxony (the largest single shareholder with 18.2 per cent) has

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<sup>1</sup> The “prisoner’s dilemma” involves two prisoners, kept apart, who are separately offered inducements to betray each other. If one betrays the other while the other stays silent, then the squealer goes free and the one who stayed silent is harshly punished. If both prisoners betray each other, they each receive harsh punishment. If both stay silent, they each receive a lesser penalty. The rational solution to a single game is for both prisoners to betray each other. When the game is played several times, a successful strategy of “tit for tat” evolves in which each betrayal is met by retaliation.

more of a stakeholder than shareholder bent with an eye to local employment conditions. In airlines the habit of protecting “national champions” has not died out in Europe as yet.

Transaction frequency is another feature that can confuse, such as in the airline industry, where decisions on pricing have been devolved to front-line managers, creating a competitive battleground akin to death by a thousand cuts. Again, contrast this with an industry such as the automotive glass industry in Europe, where the three remaining participants enjoy long-term supply agreements and once in a decade decisions on lumpy new capacity additions that are signalled clearly in advance.

Axelrod attributes the success of the “tit for tat” strategy in his repeated prisoner’s dilemma game to what he calls the “shadow of the future”, which has a bearing on decision-making in the current game. Participants are less likely to defect in the current game if they think that a competitor will retaliate in the subsequent game. The generals of WWI, infuriated by the policy of “live and let live” adopted by their troops realized that the way to change behaviour was to remove the “shadow of the future”. This they did by reducing the time served by troops in a particular trench, making it harder for the soldiers to establish co-operative rules of (non-) engagement with the opponent. Industries where managers can be seen to be extending the “shadow of the future”, by signalling how they will respond to competitor behaviour, are thus wholly welcome.

Biological evolution works by natural selection and so it is with the evolution of co-operation. Employment or anti-trust concerns blunt the efficacy of this process, most notably via Chapter 11 bankruptcy protection. Again we have noted in the past how the imposition of exit barriers can lead to “survival of the unfittest”. Likewise on a broader macroeconomic level, the low interest rate policy of the Federal Reserve – replacing an investment/tech bubble with a housing/credit bubble – has (so far) stymied many of the natural evolutionary forces. But that’s another story...

A basic industry with few players, rational management, barriers to entry, a lack of exit barriers and non-complex rules of engagement is the perfect setting for companies to engage in co-operative behaviour. It is relatively easy to identify those industries where these conditions exist currently (just look at existing returns on capital) and it is for this reason that the really juicy investment returns are to be found in industries which are evolving to this state. The joy from a capital cycle perspective is that most investors are, for a variety of behavioural reasons, taken by surprise. Across many competitive battlefronts, we are always looking out for the next outbreak of peace.