

► maddeningly elusive. Managers' pay will be linked to how well they co-operate with other parts of the group.

Citi has some strengths, too. It is a world leader in relatively stable corporate services such as cash management and transaction-processing. And it has an enviable presence in emerging markets. These face testing times—Citi's consumer loss rates in Brazil have jumped to 14%—but their long-term growth prospects are a lot better than America's. Citi is much less exposed to its home market than is its arch-rival, Bank of America (BoFA).

Still, the near term will be ugly, even if

confidence can be restored. Credit losses in Citi's huge card business are likely to pass the peaks of previous cycles, in part because it has taken on more subprime borrowers in recent years. Overall, losses from bad loans have risen by \$4 billion in the past year and will continue to climb. The most pessimistic analysts expect Citi to post an annual loss for 2009. The job cuts will make it leaner but also hurt morale.

Citi's funding profile is another worry. Its base of stable deposits is smaller than those of competitors such as BoFA and JPMorgan Chase. It thought it had solved the problem with a deal to buy Wachovia,

a Charlotte-based bank with a big branch network. But Wachovia was snatched away by Wells Fargo after Citi's letter of intent turned out to be less than watertight—Mr Pandit's worst slip-up so far.

The big question is whether Citi, which has already raised \$75 billion in equity, a third of it from the government, will need more. It brags of a tier-one (core) capital ratio of 10.4%, giving it some \$50 billion more than the minimum regulators consider safe. But as the economy weakens this surplus will get thinner. And Citi may yet have to bring a portion of its \$1.2 trillion in off-balance-sheet assets onto its books under ►►

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Why do share prices move relentlessly in one direction?

THESE days almost all stockmarkets seem to be falling inexorably. But in more normal times individual stocks are affected by momentum, which is the tendency for popular stocks to keep rising (and for unpopular ones to keep falling). When it comes to shares, what goes up does not always come down—at least in the short term.

The phenomenon has been noted in a wide range of studies and has often been exploited by fund managers, but it has puzzled academics for decades. It is hard to square with the idea that investors are rational. If it were easy to identify which shares were due to go up and which to go down by looking at their previous price movements, why would a rational investor be willing to sell the former group or buy the latter?

Explanations for momentum have thus tended to focus on the idea that investors are irrational. For example, they may be slow to recognise that the fundamentals of a business have changed for the better (or worse). A company may need to beat profits forecasts for two or three quarters before the market is willing to give the stock a premium valuation.

But a new working paper* by researchers at the London School of Economics (LSE) suggests that the momentum effect is still consistent with the idea that investors are rational. The paper's main insight is that most investors do not buy stocks directly, but give their money to fund managers. This creates an agency problem: how do the clients know that the managers are earning their fees?

In the short term, it is difficult to distinguish management skill from luck. Be-

cause the index represents the average return of all investors before costs, some managers will beat the index while others will underperform. There is a natural tendency to assume the outperformers are skilful. So the underperformers will lose clients and the outperformers will gain.

The dotcom bubble was a case in point. "Value" investors (who look for stocks that appear cheap by usual measures) ignored the technology industry. They were dumped by clients who gave money to "growth" investors (who look for companies with a promising future) instead. By itself, that pushed up the value of dotcom stocks and made the relative performance of value investors even worse.

In the academics' view, nobody was being irrational. The clients thought they were picking the best fund managers; the value investors were avoiding overpriced stocks; the growth managers were doing what they were paid to do. After the dotcom bubble popped in March 2000, the same thing happened. Value managers started to outperform, so clients switched their money away from growth stocks. This continued for several years.



By extension, the theory also explains why momentum effects can occur at the industry level. If there is one industry (oil is a case in point) with a low correlation to the market, fund managers will watch their exposure to it very carefully, to avoid the risk of underperforming the index. So if oil shares are doing well, managers will be forced to buy them, pushing up their prices even further.

What is trickier to explain is why the momentum effect ever stops. Academics have found a tendency for a reversion to the mean (outperformers start to falter, underperformers to recover) over longer periods such as three to five years. The LSE authors suggest that momentum effects eventually take prices to such extreme levels that the gains from betting the other way are irresistible. The tricky question is who has the cash to take advantage.

Take the bursting of the dotcom bubble. Value investors were losing clients and so were selling not buying. Growth investors had a mandate from their clients to buy tech stocks and thus had no incentive to switch. And the index-trackers just bought the stocks in the index.

Reversion thus requires a *deus ex machina* in the form of some superrational investor (Warren Buffett, maybe?) or, the authors suggest, fund managers using their own money, who can take advantage of the opportunity provided.

The theory does provide some insights into how momentum might work. But relying on the notion of rational investors seems to complicate matters. If investors are rational, and cannot be sure whether active managers have skill, why do they not just put their money in index-trackers? The idea that investors can occasionally become irrational seems both simpler and intuitively more appealing, especially in the light of recent events.

*"An Institutional Theory of Momentum and Reversal".
By Dimitri Vayanos and Paul Woolley.
www.lse.ac.uk/collections/paulWoolleyCentre/