

INTRODUCTION

This book contains a collection of reports written by investment professionals at Marathon Asset Management. What makes these reports stand out, in my opinion, is an analytical focus on the ebb and flow of capital. Typically, capital is attracted into high-return businesses and leaves when returns fall below the cost of capital. This process is not static, but cyclical – there is constant flux. The inflow of capital leads to new investment, which over time increases capacity in the sector and eventually pushes down returns. Conversely, when returns are low, capital exits and capacity is reduced; over time, then, profitability recovers. From the perspective of the wider economy, this cycle resembles Schumpeter’s process of “creative destruction” – as the function of the bust, which follows the boom, is to clear away the misallocation of capital that has occurred during the upswing.

The key to the “capital cycle” approach – the term Marathon uses to describe its investment analysis – is to understand how changes in the amount of capital employed within an industry are likely to impact upon future returns. Or put another way, capital cycle analysis looks at how the competitive position of a company is affected by changes in the industry’s supply side. In his book, *Competitive Advantage*, Professor Michael Porter of the Harvard Business School writes that the “essence of formulating competitive strategy is relating a company to its environment.”¹ Porter famously described the “five forces” which impact on a firm’s competitive advantage: the bargaining power of suppliers and of buyers, the threat of substitution, the degree of rivalry among existing firms and the threat of new entrants. Capital cycle analysis is really about how competitive advantage changes over time, viewed from an investor’s perspective.

¹ Michael Porter, *Competitive Strategy* (1980), p. 3. See also *Capital Account*, pp. 6–7.

A STYLIZED CAPITAL CYCLE

Here's how the capital cycle works. Imagine a widget manufacturer – let's call it Macro Industries. The firm is doing well; so well, that its returns exceed Macro's cost of capital. The firm's CEO, William Blewist-Hard, has recently featured on the front cover of *Fortune* magazine. His stock options are in the money, and his wife no longer complains about being married to a boring industrialist. Of the nine investment bank analysts who cover Macro's stock, seven have buy recommendations and two have holds. The shares are trading at a price-earnings multiple of 14 times, below the market average. Macro's stock is held by several well-known value investors.

Macro's strategy department anticipates strong demand growth for its products, especially in emerging markets where widget consumption per capita is less than one-tenth the level found in the advanced economies. After discussions with the board, Macro's CEO announces his plans to increase manufacturing capacity by 50 per cent over the next three years in order to meet growing demand. A leading investment bank, Greedspin, arranges the secondary share offering to fund the capital expenditure. Stanley Churn of Greedspin, a close friend of Macro's Blewist-Hard, is the lead banker on the deal. The expansion is warmly received in the *FT*'s Lex column. Macro's shares rise on the announcement. Growth investors have lately been buying the stock, excited by the prospect of rising earnings.

Five years later, Bloomberg reports that Macro Industries' chief executive has resigned after longstanding disagreements over corporate strategy with a group of activist shareholders. The activists, led by hedge fund Factastic Investment, want Macro to shutter under-performing operations. Macro's profits have collapsed, and its share price is down 46 per cent over the last twelve months. Analysts say that Macro's problems stem from over-expansion – in particular, its \$2.5bn new plant in Durham, North Carolina, was delayed and over budget. The widget market is currently in the doldrums, suffering from excess supply. Macro's long-established competitors have also increased capacity in recent years, while a number of new low-cost producers have also entered the industry, including Dynamic Widget, whose own shares have disappointed since its IPO last year.

The market for widgets is suffering from the recent slowdown in emerging markets. China, the world's largest consumer of widgets, has vastly expanded domestic widget production over the last decade and has lately become a net exporter. Macro is reportedly considering a merger with its largest rival. Although its stock is trading below book, analysts say there's

little near-term visibility. Of the remaining three brokerages that still cover Macro, two have sell recommendations with one hold.

The ups and downs of this fictional widget manufacturer describes a typical capital cycle. High current profitability often leads to overconfidence among managers, who confuse benign industry conditions with their own skill – a mistake encouraged by the media, which is constantly looking for corporate heroes and villains. Both investors and managers are engaged in making demand projections. Such forecasts have a wide margin of error and are prone to systematic biases. In good times, the demand forecasts tend to be too optimistic and in bad times overly pessimistic.

High profitability loosens capital discipline in an industry. When returns are high, companies are inclined to boost capital spending. Competitors are likely to follow – perhaps they are equally hubristic, or maybe they just don't want to lose market share. Besides, CEO pay is often set in relation to a company's earnings or market capitalization, thus incentivizing managers to grow their firm's assets. When a company announces with great fanfare a large increase in capacity, its share price often rises. Growth investors like growth! Momentum investors like momentum!

Investment bankers lubricate the wheels of the capital cycle, helping to grow capacity during the boom and consolidate industries in the bust. Their analysts are happiest covering fast-growing sexy sectors (higher stock turnover equals more commissions.) Bankers earn fees by arranging secondary issues and IPOs, which raise money to fund capital spending. Neither the M&A banker nor the brokerage analysts have much interest in long-term outcomes. As the investment bankers' incentives are skewed to short-term pay-offs (bonuses), it's inevitable that their time horizon should also be myopic. It's not just a question of incentives. Both analysts and investors are given to extrapolating current trends. In a cyclical world, they think linearly.

The Macro example also shows the lag between a rise in capital spending and its impact on supply, which is characteristic of the capital cycle. The delay between investment and new production means that supply changes are lumpy (i.e., the supply curve is not smooth, as portrayed in the economics textbooks) and prone to overshooting. In fact, the market instability created by lags between changes in supply and production has long been recognized by economists (it is known as the "cobweb effect").

The capital cycle turns down as excess capacity becomes apparent and past demand forecasts are shown to have been overly optimistic. As profits collapse, management teams are changed, capital expenditure is slashed, and the industry starts to consolidate. The reduction in investment and contraction in industry supply paves the way for a recovery of profits. For an

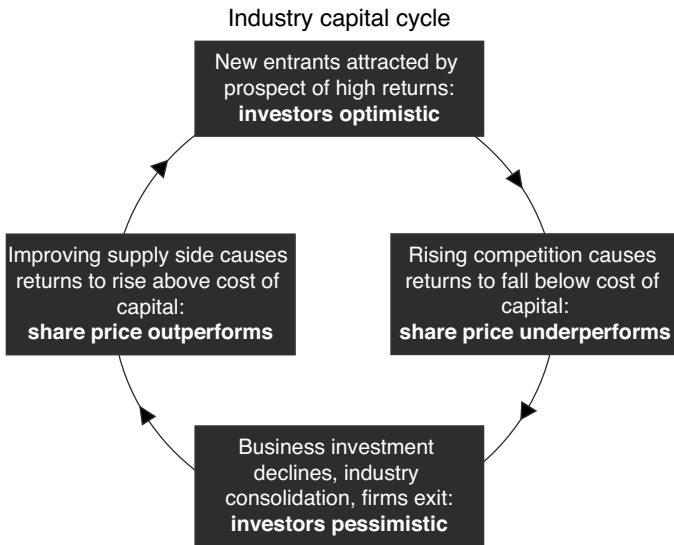


Chart I.1 The capital cycle

Source: Marathon.

investor who understands the capital cycle this is the moment when a beaten down stock becomes potentially interesting. However, brokerage analysts and many investors operating with short time horizons generally fail to spot the turn in the cycle but obsess instead about near-term uncertainty.

SOME RECENT CAPITAL CYCLES

The capital cycle described above might seem rather simplistic and contrived. Yet it is surprisingly common. Some industries, such as the semiconductor and airline industries, are particularly prone to violent capital cycles, resulting in frequent bouts of excess capacity and generally disappointing investment returns.² We have witnessed this boom-bust process in many other sectors in recent years. Marathon's earlier book, *Capital Account*, described the mistaken demand forecasts and overinvestment which accompanied the TMT bubble of the late 1990s.

During the tech boom, many telecoms companies operated on the mistaken assumption that Internet traffic was doubling every 100 days. This forecast was used to justify enormous capital spending by the likes of WorldCom, Global Crossing and a host of long-forgotten "alternative carriers" (as the

² For more on the semiconductor cycle, see below 2.6 "Escaping the semis' cycle."

minor telecoms players were then known). After the bubble burst, the misallocation of capital was revealed and, for several years afterwards, telecoms networks were plagued with massive excess capacity (known as “dark fibre,” as much of the networks’ expensively laid fibre optic cable remained unlit.)

Following the dotcom bust, a number of capital cycles appeared across a variety of industries. The global shipping industry provides a classic example.³ Between 2001 and 2007, daily rates for “Panamax” class ships rose tenfold as China’s rapidly increasing share of global trade boosted shipping demand. New orders in the shipbuilding industry are strongly correlated with daily spot rates. The supply response was inevitable if not immediate – it takes up to three years for a new ship order to be delivered. Between 2004 and 2009, however, the global dry bulk fleet doubled from 75 to 150m deadweight tonnes.⁴ The effect of this new supply combined with the global slowdown resulted in a 90 per cent fall in Panamax daily rates, which wiped out all the gains from earlier in the decade. An investor who bought into shipping in the summer of 2007, before the onset of the global financial crisis, would have lost two-thirds of his money. Shares in global shipping companies, such as Denmark’s Maersk Group, were down a similar amount. New ships, which had been ordered during the boom years, continued to be delivered long after the downturn. At the time of writing, the shipping industry is still suffering from poor capacity utilization and low rates.

Rising house prices after 2002 prompted another capital cycle in the US homebuilding industry. By the time the US housing bubble peaked in 2006, the excess stock of new homes was roughly equal to five times the annual production required to satisfy demand from new household formation. Spain and Ireland, whose real estate markets had even more pronounced upswings, ended up with excess housing stocks equivalent to roughly 15 times the average annual supply of the pre-boom period. Whilst under way, housing booms are invariably justified by references to rosy demographic projections. In the case of Spain, it turned out that recent immigration had largely been a function of the property boom. After the bubble burst and the Spanish economy entered a depression, foreigners left the country by the hundreds of thousands.

³ See “Waves in Ship Prices and Investment,” by Robin Greenwood and Samuel Hanson, NBER Working Paper, 2013.

⁴ “Shipping Sector Report: Supply Finally Conquered but will Spot Rates be Liberated?,” DNB Markets, 8 April 2013.

Several well-known “value” investors who ignored capital cycle dynamics were blindsided by the housing bust. In the years before US home prices peaked in 2006, homebuilders had grown their assets rapidly. After the bubble burst, these assets were written down. As a result, investors who bought US homebuilders’ stocks towards the end of the building boom when they were trading around book value – towards their historical lows – ended up with very heavy losses.⁵ From a capital cycle perspective, it’s interesting to note that although UK and Australia experienced similar house price “bubbles,” strict building regulations prevented a supply response. Largely as a consequence, both the British and Australian real estate markets recovered rapidly after the financial crisis.⁶

THE COMMODITY SUPERCYCLE

The commodity “supercycle,” as the brokers called it, took off in the period of low interest rates following the dotcom bust of 2002 (see below, 1.3 “This time’s no different” and 1.4 “Supercycle woes”). Rising prices for commodities were propelled by China, whose investment-heavy economy was experiencing consistent double digit annual GDP growth. After the financial crisis, China’s investment share of GDP rose even further to some 50 per cent of GDP, a higher level than seen before in any other economy. By 2010, China accounted for more than 40 per cent of global demand for a number of commodities, including iron ore, coal, zinc and aluminium. China’s share of incremental demand for these commodities was even higher.⁷ The prices of these commodities and several others were far above their historic trends, arguably at bubble levels.⁸

⁵ For instance, the large US homebuilder KB Home experienced a 28 per cent compound annual growth in assets between 2001 and 2006. By summer of 2006, its shares were trading at 1.2 times book. From that point, KB’s book value declined by 85 per cent, and its shares, already well below their peak, fell a further 75 per cent.

⁶ The fact that UK housing supply didn’t respond to the British housing bubble is reflected in the superior performance of UK homebuilding stocks relative to their US counterparts over the last decade.

⁷ Sanford C. Bernstein estimates that China contributed 92 per cent of total growth in iron ore consumption between 2000 and 2013. See “US Metals and Mining: Super-cycle... Where is the Super-Cycle?,” July 2014.

⁸ At the Boston-based investment firm GMO, my former employer, we defined an asset price bubble as a two-standard deviation from trend. By 2010, iron ore was 4.9 s.d. above trend, copper 3.9 s.d., coal 4.1 s.d., zinc 1.9 s.d. and aluminium 1.4 s.d. See Jeremy Grantham, “The Time to Wake Up: Days of Abundant Resources and Falling Prices Are Over Forever,” GMO, April 2011.

As the price of commodities rose, the profitability of global mining companies took off. Their return on capital employed rose from around 7.5 per cent at the turn of the century to peak at nearly 35 per cent in 2005, rebounding after the financial crisis to around 20 per cent.⁹ Even after the Lehman bust, most analysts extrapolated recent commodity demand growth into the distant future on the grounds that China's economy was destined to converge with, and eventually overtake, the mighty US economy. This combination of high commodity prices, strong profitability and robust expected future demand spurred the miners to increase production.

Annual global mine production (in USD terms) rose by 20 per cent annually between 2000 and 2011, more than half of this growth coming from iron ore and coal.¹⁰ In volume terms, iron ore production doubled over the same period. Mining capital expenditure climbed more than fivefold, from around \$30bn a year at the turn of the century to peak at over \$160bn.¹¹ Changes in iron ore supply materialize after a long lag – it takes up to nine years to develop a greenfield site. New supply is particularly lumpy owing to the huge size of some of the new mines – Vale's Serra Sul project in Brazil, which had a capex budget of nearly \$20bn, is expected to add nearly 5 per cent to global iron ore production.

During the years of rocketing commodity prices, supply also came on stream from non-traditional producers, including Iran and parts of Africa. Although the global mining industry is concentrated among a handful of major players, competition has been fierce – Australia's Fortescue Metals Group, a relative newcomer, expanded aggressively to become the 4th largest iron producer by 2011. Many smaller mining companies came to the market, including a number of rather dubious foreign outfits floated on the London Stock Exchange.¹² High prices also increased the supply of scrap metal.¹³

The commodity supercycle appears to have turned in 2011, roughly coincident with a slowdown in China's growth rate. By April 2015, the price of seaborne iron ore was down roughly 70 per cent from the peak (in USD terms). New mining capacity, commissioned when prices were high, is destined to come on stream for the next several years, contributing further to

⁹ "A Long Lasting Mining Capex Correction," UBS, June 5, 2014.

¹⁰ See Bernstein, *op. cit.*

¹¹ The ratio of the miner's capex to depreciation, which rose from 1.1x in 2001 to peak at 3x in 2012, UBS, *ibid.*

¹² On a 12-month basis, global junior and mid-tier equity raisings in the mining sector went from just \$1bn in 2005 to \$30bn by mid-2011, falling back to around \$2bn by early 2014 (Bernstein, *ibid.*).

¹³ Scrap metal consumption rose from 401m to 573m metric tonnes, between 2000 and 2011.

overcapacity.¹⁴ The profitability of the global miners has declined in tandem with commodity prices, and their shares have underperformed.¹⁵ Thus, the great commodity supercycle bears the hallmarks of a classic capital cycle: high prices boosting profitability, followed by rising investment and the arrival of new entrants, encouraged by overly optimistic demand forecasts; and the cycle turning once supply has increased and demand has disappointed.

THE CAPITAL CYCLE ANOMALY

So much for some recent anecdotal evidence in support of the capital cycle approach. What do the finance professors have to say? When I wrote the introduction to Marathon's *Capital Account* just over a decade ago, little academic work had been published on this subject. More recently, however, a number of papers have appeared, observing an inverse relationship between capital expenditure and investment returns. Firms with the lowest asset growth have outperformed those with the highest asset growth, as the chart from Société Générale strategist Andrew Laphorne shows (see Chart I.2).

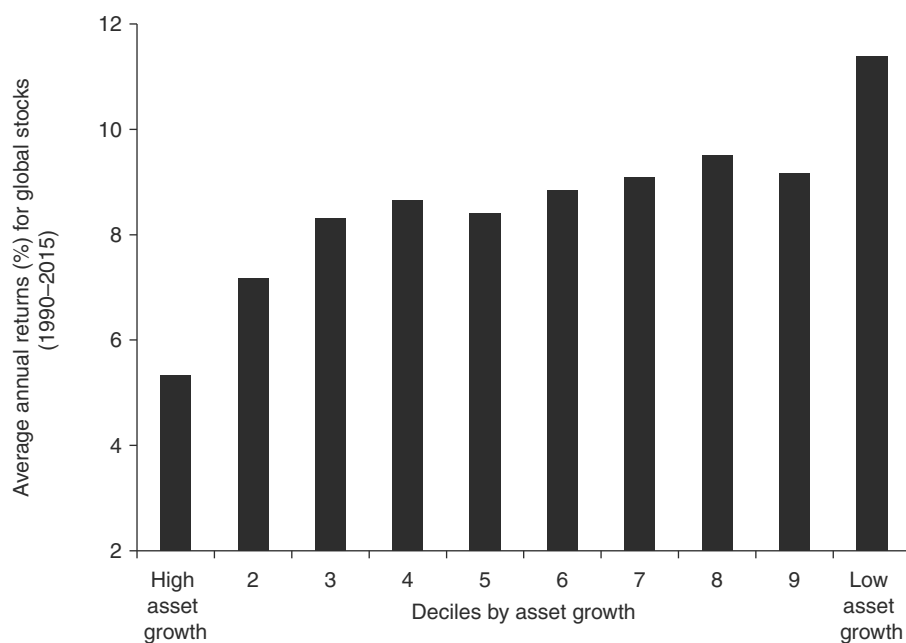


Chart I.2 Asset growth and investment returns

Source: SocGen.

¹⁴ A recent research note from Sanford C. Bernstein (*supra*) suggested that potential new capacity in the pipeline amounted to 50 per cent of current global iron ore production.

¹⁵ Fortescue's share price fell 44 per cent in the five years to June 2015.

Modern finance theory is based on the notion that while markets are efficient, certain “factors” – namely, size, value and momentum – have historically beaten the benchmark index. Nobel laureate Eugene Fama and his colleague Ken French have suggested adding two more factors to their model: profits and investment.¹⁶ With regards to the capital cycle, Fama and French observe that companies which have invested *less* have delivered higher returns. This finding has been termed the “asset-growth anomaly.” A paper in the *Journal of Finance* reports that corporate events associated with asset expansion – such as mergers & acquisitions, equity issuance and new loans – tend to be followed by low returns.¹⁷ Conversely, events associated with asset contraction – including spin-offs, share repurchases, debt prepayments and dividend initiations – are followed by positive excess returns. The negative impact on shareholder returns from expanding corporate assets was found to persist for up to five years.

The *Journal of Finance* authors conclude that firm asset growth is a *stronger* determinant of returns than traditional value (low price-to-book), size (market capitalization), and momentum (both long and short horizon). Other finance economists have found that companies often accelerate investment after their stocks have done relatively well and that these same companies later underperform. This suggests that asset growth may explain the phenomenon of momentum reversal.¹⁸

In short, recent research is edging towards the conclusion that the excess returns historically observed from value stocks and the low returns from growth stocks are not independent of asset growth. This leads to a key insight of the capital cycle investment approach: *when analyzing the prospects of both value and growth stocks, it is necessary to take into account asset growth, at both the company and the sectoral level.* One researcher goes so far as to claim that the value effect disappears after controlling for capital investment.¹⁹

¹⁶ Eugene Fama and Kenneth French, “A Five-Factor Asset Pricing Model,” Working Paper, September 2014.

¹⁷ Michael Cooper, Huseyin Gulen, and Michael Schill, “Asset Growth and the Cross-Section of Stock Returns,” *Journal of Finance*, 2008. See also, Sheridan Titman, John Wei and Feixue Xie, “Capital Investment and Stock Returns,” *Journal of Financial and Quantitative Analysis*, 2004; Yuhang Xie, “Interpreting the Value Effect through Q-Theory: An Empirical Investigation,” Working Paper, 2007; and S.P. Kothari, Jonathan Lewellen, and Jerold Warner, “The Behavior of Aggregate Corporate Investment,” Working Paper, September 2014.

¹⁸ Christopher Anderson and Luis Garcia-Fijóo, “Empirical Evidence on Capital Investment, Growth Options, and Security Returns,” *Journal of Finance*, 2006.

¹⁹ Xie, *ibid.*

MEAN REVERSION

The “asset-growth anomaly” can be viewed from the perspective of mean reversion.²⁰ Mean reversion is not driven by the ebb and flow of animal spirits alone. Rather, it works through differential rates of investment. Companies which earn above their cost of capital tend to invest more, thereby driving down their future returns, while companies which fail to earn their cost of capital behave in the opposite way. This point is recognized by Benjamin Graham and David Dodd in *Security Analysis* (1934), the bible of value investing:

A business which sells at a premium does so because it earns a large return upon its capital; this large return attracts competition; and generally speaking, it is not likely to continue indefinitely. Conversely in the case of a business selling at a large discount because of abnormally low earnings. The absence of new competition, the withdrawal of old competition from the field, and other natural economic forces, should tend eventually to improve the situation and restore a normal rate of profit on the investment.

Investment drives mean reversion for both individual companies and whole markets. A researcher at the University of Arizona has demonstrated that corporate investment in most developed economies (comprising US and EAFE) is a significant negative predictor of aggregate profitability, stock market returns, and even GDP growth.²¹ During the US stock market bubble of the late 1990s, for instance, the investment share of GDP rose above average levels. After the bubble burst and the misallocation of capital of the boom years was revealed, both aggregate investment and profitability declined and the US economy went into recession.

All this suggests that asset allocators should consider market valuation in tandem with the capital cycle. Normally, the two run together. The US stock market in recent years, however, has proved something of a conundrum. Since 2010, US stocks have looked expensive when viewed from a valuation perspective (e.g., the cyclically-adjusted price-earning ratio) largely due to the fact that profits have been above average. Yet US corporate investment has been lacklustre since the global financial crisis.

²⁰ For a discussion of mean reversion and the capital cycle, see *Capital Account*, p. 28.

²¹ Salman Arif, “Aggregate Investment and Its Consequences,” Working Paper, March 2012. The exceptions to this finding are Hong Kong, Switzerland and Sweden.

With the key driver of mean reversion missing, profits have remained elevated for longer than expected, and the US stock market has delivered robust returns.²² China provides an example at the opposite end of the spectrum: stock prices have often appeared cheap from a valuation perspective, but investment and asset growth have been elevated resulting in poor corporate profitability.

EXPLANATIONS FOR THE CAPITAL CYCLE ANOMALY

The market inefficiency observed by capital cycle analysis can be explained in terms of the conventional findings of behavioural finance – namely, some combination of overconfidence, base-rate neglect, cognitive dissonance, narrow-framing and extrapolation appear to account for the fact that companies with high levels of investment tend to underperform. These behavioural factors are reinforced by agency-related problems. Skewed incentives encourage both investors and corporate managers to adopt short-term perspectives which are inimical to capital cycle analysis. Rational investors are unable to impose their views on the market as the capital cycle poses a number of “limits to arbitrage.”

OVERCONFIDENCE

Why do investors and corporate managers pay so little attention to the inverse relationship between capital spending and future investment returns? The short answer is that they appear to be infatuated with asset growth. Corporate expansion fires the imagination of both managers and shareholders. This mistaken fetishism for growth is reflected in the historic poor performance of stocks with higher growth expectations (higher valuations). Behavioural finance suggests that investors (and corporate managers) are prone to overconfidence when it comes to making forecasts. As Yogi Berra says, “It’s tough to make predictions, especially about the future.” As we shall see, this is especially the case when it comes to predicting future levels of demand.

COMPETITION NEGLECT

Overinvestment is not a solitary activity; it comes about because several players in an industry have been increasing capacity at the same time. When

²² This is not to say that unorthodox monetary policies from the Federal Reserve have played no part in recent years in inflating US stock prices.

market participants respond to perceived increases in demand by increasing capacity in an industry, they fail to consider the impact of increasing supply on future returns. “Competition neglect,” according to Harvard Business School professors Robin Greenwood and Samuel Hanson, is “particularly strong when firms receive delayed feedback about the consequences of their own decisions.”²³ The authors of a paper in the *American Economic Review* sought to explain why so many new entrants into business frequently fail. They found that managers so overestimate their own skills they neglect competitive threats.²⁴

This failure to pay attention to the outward shift in the supply curve can be linked to another common behavioural trait, known as “base-rate neglect.” Namely, the tendency of people not to take into account all available information when making a decision. With regards to the workings of the capital cycle, investors focus on current (and projected) future profitability but ignore changes in the industry’s asset base from which returns are generated. At times, this tendency morphs into what psychologists call “cognitive dissonance” – a wilful refusal to consider disconfirming evidence once a course of action has been decided upon.

INSIDE VIEW

Such narrow-framing arises by decision-makers taking the “inside view,” a term coined by the psychologist Daniel Kahneman.²⁵ The inside view is generated when individuals in a group focus on “specific circumstances and search for evidence in their own experiences.”²⁶ As investment strategist Michael Mauboussin (formerly of Legg Mason) writes:

²³ Robin Greenwood and Samuel Hanson, “Waves in Ship Prices and Investment,” NBER Working Paper, July 2013. On the phenomenon of excess investment, Greenwood and Hanson comment that “models in which market participants over-extrapolate exogenously given cash flows are well understood in economics... But in most industries, the cash flows are not exogenous but are an endogenous equilibrium outcome that is impacted by the industry supply response to demand shocks. It follows that firms may over-extrapolate current profits either because they (i) overestimate the persistence of the exogenous demand shocks facing the industry or (ii) fail to fully appreciate the long-run endogenous supply response to those demand shocks.”

²⁴ Colin Camerer and Dan Lovallo, “Overconfidence and Excess Entry: An Experimental Approach,” *American Economic Review*, 1999.

²⁵ See Michael Mauboussin, “Death, Taxes and Reversion to the Mean,” Legg Mason Capital Management, December 2007.

²⁶ Daniel Kahneman, *Thinking Fast and Slow*, 2011, p. 247.

An inside view considers a problem by focusing on the specific task and the information at hand, and predicts based on that unique set of inputs. This is the approach analysts most often use in their modeling, and indeed is common for all forms of planning. In contrast, an outside view considers the problem as an instance in a broader reference class. Rather than seeing the problem as unique, the outside view asks if there are similar situations that can provide useful calibration for modeling. Kahneman notes this is a very unnatural way to think precisely because it forces analysts to set aside all of the cherished information they have unearthed about a company. This is why people use the outside view so rarely.²⁷

Analysts with highly specialized knowledge of an industry are prone to adopting the inside view. They assume that their own case is unique. When it comes to investment analysis, looking for relevant historical parallels (e.g., comparing the US real estate boom of the 2000s to the Japanese real estate market in the 1980s) is an example of taking the outside view. “In the inside view,” write the *AER* authors in their paper on new entrants’ failures, “there is no special role for anticipation of the number of competitors or their abilities. In the outside view, the fact that most entries fail cannot be ignored.”

EXTRAPOLATION

The inside view is linked with our tendency to extrapolate. Behavioural finance – a branch of economics established by Kahneman and his late colleague Amos Tversky – describes how we “anchor” on the information placed in front of us and are overly influenced by our immediate experiences (“recency bias.”) Another common heuristic is the tendency to draw strong inferences from small samples. These weaknesses reinforce the propensity of investors to make linear forecasts, despite the fact that most economic activity is cyclical – there are trade cycles, credit cycles, liquidity cycles, real estate cycles, profit cycles, commodity cycles, venture capital cycles and, of course, industry capital cycles. Our inclination to extrapolate must be hard-wired.

²⁷ Mauboussin, *ibid.* The failures of analysts who take an “inside view” is discussed below, see 3.1 “Food for thought.”

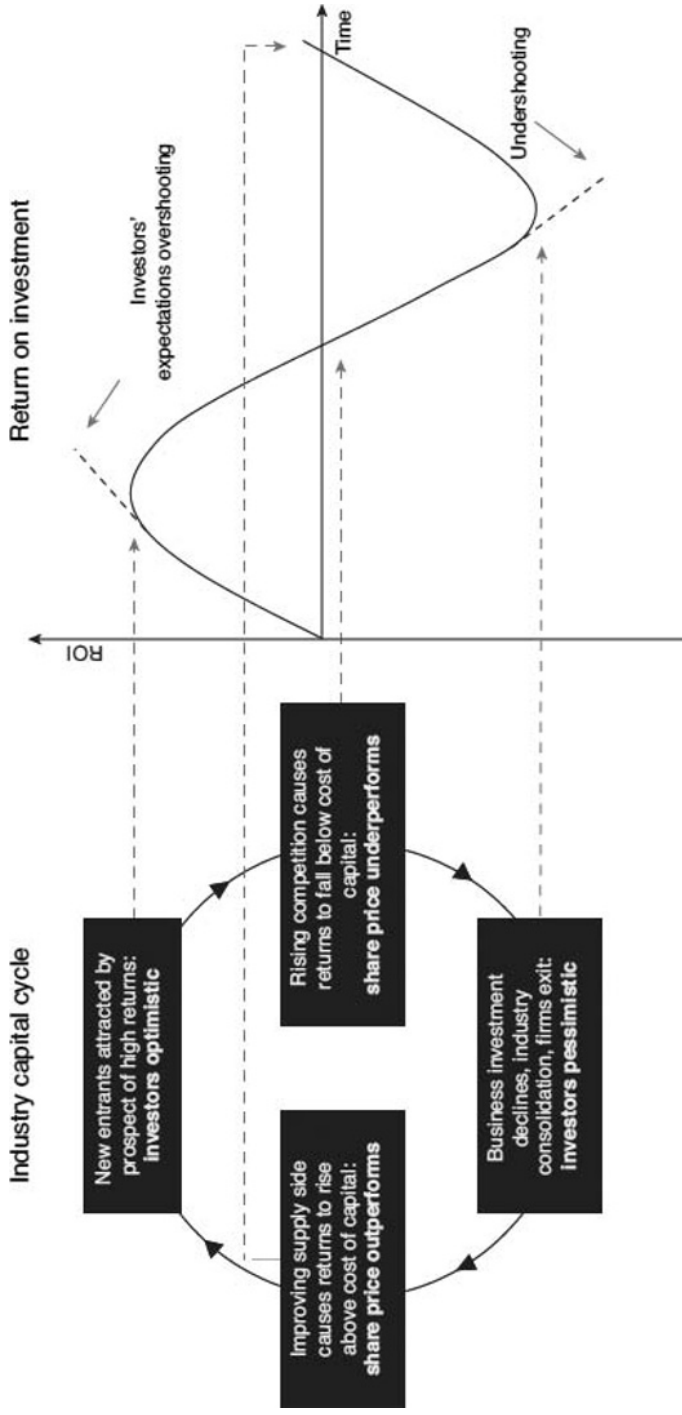


Chart I.3 Investor overreaction and the capital cycle

Source: Marathon.

Value investors who buy cheap stocks with depressed earnings are protected against the extrapolation tendency. As the author of a recent investment text book writes:

The main behavioral explanation for value stocks' long-run outperformance is excessive extrapolation by investors of multiyear growth rates. In reality, growth mean reverts faster than the market expects, making growth stocks more likely to disappoint.²⁸

The capital cycle analyst would agree with these comments, adding crucially that mean reversion is driven by changes on the supply side which value investors who consider only quantitative measures of valuation are inclined to overlook.

SKEWED INCENTIVES

Skewed incentives exacerbate these well-known behavioural weaknesses. CEO compensation is often linked to short-term performance measures, such as annual changes in earnings-per-share or shareholder returns. Stock prices often react positively to announcements of major capital spending.²⁹ Companies which invest more often attract premium valuations. The stocks of high asset growth companies often exhibit positive momentum.³⁰ Executive pay is also frequently linked to a company's size, as measured by revenue or market capitalization. The incentives are thus skewed for managers to favour growth and to downplay any adverse long-term consequences. There is some evidence that managers with a large ownership stake are more likely to shrink capital employed – through buybacks – if they see few profitable alternatives.

Investors whose compensation is linked to short-term performance are also inclined to myopia. Investment bankers who drive the capital cycle – raising money to finance investment with debt and equity issuance and launching IPOs – are compensated according to their fee generation rather than the outcome their capital-raising activities may have for clients and shareholders. Investment bank analysts serve as cheerleaders; their pay is linked to brokerage commissions, generated by stock turnover. They too have little interest in long-term outcomes.

²⁸ See Antti Ilmanen, *Expected Returns*, 2011, Chapter 12.

²⁹ See Titman et al., *op. cit.*

³⁰ *Ibid.*

PRISONER'S DILEMMA

Game theory can also explain overinvestment within an industry. Managers in a business with high current profitability may face a problem akin to the prisoner's dilemma. Take a situation where future demand growth can profitably accommodate expansion by a single player, but no more. If several players simultaneously expand their operations, their aggregate profits will decline at some future date. Under such circumstances, it's collectively rational for the incumbents to prevent any expansion – since gains only accrue to one of their number. If the industry is competitive or has low barriers to entry, there is an incentive for one player to break ranks and enjoy the fruits of expansion. The remainder may feel obliged to follow suit, as they can't abide a competitor leaving them standing and may wish to protect market share. Thus, excessive asset growth can result from a lack of cooperative behaviour within an industry (see Section 1.1 “Evolution of cooperation”).

LIMITS TO ARBITRAGE

If high asset growth companies consistently underperform, why don't smart investors simply short these stocks? Or, if they are constrained from going short, at least not go long? The answer is that the fast-growing companies often have volatile share prices and going short volatility can be very expensive – as short-sellers of Internet and technology stocks discovered to their cost in the late 1990s. Furthermore, companies with strong asset growth often have large market capitalizations – as was the case with many of the telecoms companies in the 1990s and more recently with the global mining stocks. Investors who avoid buying high asset growth stocks may be forced to take large bets against the benchmark. Short-term underperformance may result in the only risk which keeps professional investors awake at night, namely “career risk.”³¹ It should also be noted that capital cycles vary in length, and nobody knows in advance when they will turn. This uncertainty adds yet another limit to arbitrage. Marathon's private ownership and longstanding client relationships

³¹ See Eric Lam and John Wei, “Limits-to-Arbitrage, Investment Frictions, and the Asset Growth Anomaly,” *Journal of Financial Economics*, forthcoming. Harvard's Andrei Shleifer and Robert Vishny demonstrated that markets become inefficient when rational investors face high costs, which come, for example, from shorting volatile stocks. They coined the phrase “limits to arbitrage” to describe this phenomenon (see eponymous paper in the *Journal of Finance*, 1997). Lam and Wei argue that the inverse relationship between high asset growth and subsequent returns is most pronounced for stocks that are difficult to arbitrage, because they have larger market caps, greater trading costs, or are more volatile.

enable the firm to adopt a long-term approach, more tolerant of benchmark deviation, which is necessary to apply capital cycle analysis.

FUNDAMENTALS OF CAPITAL CYCLE ANALYSIS

Marathon's approach is to look for investment opportunities among both value and growth stocks, as conventionally defined.³² They come about because the market frequently mistakes the pace at which profitability reverts to the mean. For a "value" stock, the bet is that profits will rebound more quickly than is expected and for a "growth stock," that profits will remain elevated for longer than market expectations.

FOCUS ON SUPPLY RATHER THAN DEMAND

Given that the future is uncertain, why should Marathon's approach fare any better? The answer is that most investors spend the bulk of their time trying to forecast future demand for the companies they follow. The aviation analyst will try to answer the question: How many long-haul flights will be taken globally in 2020? A global autos strategist will attempt to forecast China's demand for passenger cars 15 years hence. No one knows the answers to these questions. Long-range demand projections are likely to result in large forecasting errors.

Capital cycle analysis, however, focuses on supply rather than demand. Supply prospects are far less uncertain than demand, and thus easier to forecast. In fact, increases in an industry's aggregate supply are often well flagged and come with varying lags – depending on the industry in question – after changes in the industry's aggregate capital spending. In certain industries, such as aircraft manufacturing and shipbuilding, the supply pipelines are well-known. Because most investors (and corporate managers) spend more of their time thinking about demand conditions in an industry than changing supply, stock prices often fail to anticipate negative supply shocks.³³

³² See below, 2.1 "Warning labels" and 2.7 "Value in growth."

³³ Several accounting based measures provide insights into the capital cycle. As observed above, stocks with the fastest asset growth tend to underperform. When a company's capital expenditure relative to depreciation rises above its average level it may be a sign that the capital cycle is deteriorating (see 1.4 "Supercycle woes" and Chapter 1, "A capital cycle revolution"). A rising gap between reported earnings and free cash flow is another warning sign (see 1.7 "Major concerns"). The Herfindahl Index provides a statistical measure of industry concentration which may reveal changes in competitive conditions. Anecdotal signs prove just as useful in gauging the capital cycle. It's generally a bad sign when a company starts building a grandiose new head office (see 4.9 "On the rocks").

ANALYZE COMPETITIVE CONDITIONS WITHIN AN INDUSTRY

From the investment perspective, the key point is that returns are driven by changes on the supply side. A firm's profitability comes under threat when the competitive conditions are deteriorating. The negative phase of the capital cycle is characterized by industry fragmentation and increasing supply. The aim of capital cycle analysis is to spot these developments in advance of the market. New entrants noisily trumpet their arrival in an industry. A rash of IPOs concentrated in a hot sector is a red flag; secondary share issuances another, as are increases in debt. Conversely, a focus on competitive conditions should alert investors to opportunities where supply conditions are benign and companies are able to maintain profitability for longer than the market expects. An understanding of competitive conditions and supply side dynamics also helps investors avoid value traps (such as US housing stocks in 2005–06).

CAVEAT INVESTMENT BANKER

The capital cycle analyst is particularly wary of the actions of investment banks, and the work of their in-house propagandists, the brokerage analyst.³⁴ Besides generating fees for themselves, the main economic function of the investment bank is to supply finance to capital-hungry businesses – for which they earn generous fees. Bankers are paid to drive capital cycles, not to worry about the negative long-term consequences that capital expansion may have for clients.

Brokers also pay little attention to the capital cycle which operates beyond their short-term time horizon. Instead, they spend their time trying to forecast the next quarter's earnings, which is good for generating turnover and commissions, and occasionally going "over the wall" to help their banker colleagues market a new share issuance. In fact, brokers have never been adept at anticipating movements in the capital cycle:

"Rarely does one find a brokerage house study that point out," wrote Benjamin Graham, "with a convincing array of facts, that a popular industry is heading for a fall or that an unpopular one is due to prosper. Wall Street's view of the future is notoriously fallible... [especially when it] is directed towards forecasting the course of profits in various industries."

³⁴ For a humorous take on this, see Chapter 7.

Yet the broker's continual failure to analyse the capital cycle doesn't mean that all effort is futile! The good capital cycle analyst is a contrarian by nature and always sceptical of the siren call of Wall Street.

SELECTING THE RIGHT CORPORATE MANAGERS

Marathon is fond of repeating two comments of Warren Buffett. The first being to the effect that most chief executives have risen to the top of their companies because they "have excelled in an area such as marketing, production, engineering – or sometimes, institutional politics." Yet they may not have the capital allocation skills required of managers. Such skills are essential, according to the Sage of Omaha, since, "after ten years on the job, a CEO whose company retains earnings equal to 10 per cent of net worth will have been responsible for the deployment of more than 60 per cent of all capital at work in the business." Capital cycle analysis involves keeping a sharp eye on managers to assess their ability to allocate capital. Marathon spends a lot of time meeting and questioning managers to this effect (see 3.8 "A meeting of minds").

GENERALISTS MAKE BETTER CAPITAL CYCLE ANALYSTS

Industry specialists are prone to taking the "inside view." Having got lost in a thicket of detail, industry specialists end up not seeing the wood for the trees. They may, for instance, spend too much time comparing the performance and prospects of companies within their sector and fail to recognize, as a result, the risks that the industry as a whole is running. Marathon prefers to employ generalists who are less likely to suffer from "reference group neglect" and better able to employ an understanding of capital cycle dynamics across industries.

ADOPT A LONG-TERM APPROACH

Capital cycle analysis, like value investing, requires patience. It takes a long time for an industry's capital cycle to play out. The Nasdaq started bubbling in 1995. Yet it wasn't until the spring of 2000 that the dotcom bubble finally burst. New supply comes with varying lags in different industries. As we have seen, it can take nearly a decade for a new mine to start producing. Marathon warned of the dangers of rising mining investment back in May 2006 (see 1.3 "This time's no different" – yet after rebounding in the wake of the financial crisis, the commodity supercycle didn't turn down for another

five years. Marathon's long-term investment discipline, with its very low portfolio turnover, is well suited to applying the capital cycle approach.

CAPITAL CYCLE BREAKDOWNS

Capital cycle analysis requires patience, a certain doggedness (willingness to be wrong for a long period) and a contrarian mindset. Once the cycle has turned and overcapacity in an industry has been exposed, the progression of events appears inevitable. That's hindsight bias. At the time, the outcome never seems so certain. Besides, on occasion the normal operation of the capital cycle breaks down. Over the last two decades, the Internet has destroyed many long-established business models – in advertising (Yellow Pages), media (newspapers), retailing (bookshops), and entertainment (music industry and video rental). Investors who underestimated the disruptive impact of new technology have lost money.³⁵ The capital cycle also ceases to function properly when policymakers protect industries (see 5.4 “Broken banks” and 5.5 “Twilight zone”) and under conditions of state capitalism, as found in modern China (see Chapter 6, “China Syndrome”).

THE TENETS OF CAPITAL CYCLE ANALYSIS

The essence of capital cycle analysis can thus be reduced to the following key tenets:

- Most investors devote more time to thinking about demand than supply. Yet demand is more difficult to forecast than supply.
- Changes in supply drive industry profitability. Stock prices often fail to anticipate shifts in the supply side.
- The value/growth dichotomy is false. Companies in industries with a supportive supply side can justify high valuations.
- Management's capital allocation skills are paramount, and meetings with management often provide valuable insights.
- Investment bankers drive the capital cycle, largely to the detriment of investors.
- When policymakers interfere with the capital cycle, the market-clearing process may be arrested. New technologies can also disrupt the normal operation of the capital cycle.

³⁵ For Marathon's experience, see footnote to 5.6 “Capital punishment.”

- Generalists are better able to adopt the “outside view” necessary for capital cycle analysis.
- Long-term investors are better suited to applying the capital cycle approach.

A BRIEF OUTLINE OF THE BOOK

I have arranged the essays from Marathon’s *Global Investment Review* in the following order: *Chapter 1 – Capital Cycle Revolution*: This chapter looks at the operation of the capital cycle in a number of industries, from fishing to wind turbines. As noted above, the capital cycle enters a dangerous phase when high profitability leads to rising capital spending, as has occurred in both the mining and oil sectors in recent years. In these cases, increases in miners’ capex to depreciation ratio and the decline in energy companies’ cash conversion rate served as red flags for investors. The capital cycle enters a benign phase when low profitability results in industry consolidation, as the global beer industry experienced at the turn of the century. Alternately, the capital cycle takes a positive turn when industry players cease competing virulently against each other and learn to cooperate.

Chapter 2 – Value In Growth: The essays contained in this chapter eschew the conventional growth/value dichotomy. Marathon rejects the label “value investor,” which is generally associated with buying stocks that are cheap based on accounting measures. Instead, the aim is to look for stocks which are selling below Marathon’s estimate of intrinsic value and have strong competitive positions: such companies may benefit from network effects, occupy secure niches, be firmly embedded in an industry’s supply chain, or enjoy pricing power because their products are sold through third parties more concerned with quality than price. Marathon argues that high valuations are often justified for companies protected by deep moats. Fast-growing companies with little or no profits and high valuations, such as Amazon, can still make good investments provided their industry’s supply side remains supportive.

Chapter 3 – Management Matters: Over the medium term, the performance of companies depends on how well managers allocate their assets. It’s important therefore that investors meet with management in order to assess their asset allocation skills. Marathon argues that much can be learned from meeting CEOs – the ones who fly around in private jets, spend their time constructing lavish new headquarters, or are greedy and vain, generally deliver poor returns for shareholders. The greatest managers, like Björn Wahlroos at

Finland's Sampo, understand their industry's capital cycle and invest in a contrarian fashion.

Chapter 4 – Accidents in Waiting: The financial crisis took most of the world by surprise. Yet banks can also be analysed from a capital cycle perspective. When bank assets (loans) are growing strongly, this is generally a negative indicator. In the years prior to the Lehman bust, Marathon's investment professionals held meetings with a number of banks and became increasingly concerned by what they saw – particularly at the Anglo-Irish Bank, whose failure imperilled the sovereign credit of Ireland. One European bank, Sweden's Handelsbanken, provides a model of how to overcome many of the flaws inherent in modern banking, including asset-liability mismatching and chronic short-termism.

Chapter 5 – The Living Dead: Policymakers have responded to the financial crisis by lowering interest rates and supporting stricken industries, such as European automakers. Their actions have interfered with the economic process of creative destruction. Low return businesses are able to survive in the era of ultra-low rates, creating the possibility that Europe is entering an era of “zombie” capitalism – akin to Japan's lost decades. Low rates have also encouraged investors to chase yield, which poses the threat of capital losses at some future date.

Chapter 6 – China Syndrome: Many investors believe that investment returns follow economic growth. Yet the returns from the Chinese stock market since it reopened in the early 1990s have been dreadful – notwithstanding the occasional bubble. Poor returns from Chinese equities are largely the result of Beijing's investment-intensive growth model, which relies on cheap capital, debt forgiveness and never-ending asset growth. The fact that many Chinese IPOs have been carved out of larger state-owned enterprises and dressed up with artificial profits has further damaged investors' interests.

Chapter 7 – Inside the Mind of Wall Street: As outlined above, Marathon is inherently suspicious of the modern investment banker, who prizes fees (and bonuses) above all else. The book concludes with a satirical take on Wall Street provided by the antics of a fictional banker, Stanley Churn, head of the investment bank Greedspin. Any resemblance to real bankers and real banks, living or dead, is purely coincidental!