THE RISE OF CARRY

THE DANGEROUS CONSEQUENCES OF VOLATILITY SUPPRESSION

AND THE NEW FINANCIAL ORDER

OF DECAYING GROWTH AND RECURRING CRISIS

TIM LEE, JAMIE LEE, & KEVIN COLDIRON

Praise for *The Rise of Carry*

The Rise of Carry is an important and unusual book. The authors have a unique understanding of what has happened to our economy in the Fed moral hazard era and what makes the current period unlike any of the classic bubbles. The questions they raise are critical not just for investors but for all of society.

JEREMY GRANTHAM, cofounder of global asset management firm GMO

The authors present an amusing and entertaining analysis of the ubiquity of the carry trade in modern finance. Formally, this is an extension of the "speculative" component of the demand for money. Of greater interest for regulators and investors is the notion that all carry trades end in market dislocations.

HUGH SLOANE, cofounder of hedge fund Sloane Robinson

Carry trades aren't supposed to work. But, they are a prominent feature on the international financial landscape. This paradox and other mysteries of carry trades are unraveled in *The Rise of Carry*. Lee, Lee, and Coldiron have produced a thought-provoking, riveting read that shines much-needed light on an important, but neglected, topic.

PROF. STEVE H. HANKE, Professor of Applied Economics, Johns Hopkins University

The Rise of Carry poses a fundamental challenge to both conventional Keynesian and monetarist approaches to analyzing financial and economic cycles. With clear arguments and detailed supporting statistics, the authors show that the combination of "carry bubbles"—which create liquidity and inflate asset prices—and central bank socialization of losses in the wake of "carry crashes"—which do the reverse—requires a radically different analysis of the business cycle. The prevalence of "carry" in virtually all markets has resulted in the evolution of a global monetary system that is perched on a knife-edge between deflation and high inflation, unless a new monetary regime less friendly to "carry" can be introduced. This is essential reading for central bankers, investors, academics, and politicians.

JOHN GREENWOOD, Chief Economist, Invesco

The carry trade has long been a steamroller in front of which currency traders pick up small change. Coldiron, Lee, and Lee describe how this trade has expanded to many corners of the investment world with broad consequences for wealth inequality and financial stability.

RONALD KAHN, Managing Director,
Global Head of Scientific Equity Research, BlackRock

Do you want to look inside today's financial matrix? Do you want to understand why we have strayed so far from our capitalist roots and will inevitably have to face the consequences? *The Rise of Carry* provides the red pill to a system whose grotesque reality will be unmasked through the forces of populism. It isn't an easy read; truth rarely is.

HENRY MAXEY, Chief Investment Officer of asset management firm Ruffer

Carry trades involve picking up nickels in front of a steamroller. Investors who wish to avoid getting flattened should read this book.

EDWARD CHANCELLOR, author of *Devil Take the Hindmost: A History of Financial Speculation*

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Introduction—The Nature of Carry

WHY HAVE STOCK MARKETS, OVER THE PAST 25 YEARS, EXPErienced huge rises and crashes? Why did the US stock market, in particular, quadruple over the years following the 2007–2009 global financial crisis even though US economic performance was at best so-so? Why do companies keep buying back their own shares rather than making real investments? Why do professional stock market investors and traders hang on every word that central bankers utter? Why does it seem that everyone wants to live in the big, overcrowded global cities, such as London and New York, even though new technology supposedly allows us to live and work almost anywhere? What explains the rise of populist political movements?

Needless to say, any attempt to answer all these questions thoroughly would require a much longer book than this. But the starting point to answering them requires a perspective through the narrow prism of financial markets. The behavior of financial markets today is not, as is commonly believed, some function of the economy or interest rates or the result of political developments. It is a manifestation of the rise of carry, or the suppression of financial volatility. The rise of carry can be understood as part of

a much broader phenomenon, with implications for all aspects of human affairs, but its expression in financial markets alone has had profound consequences for the world.

What Do We Mean by "Carry" and "Carry Trades"?

Carry trades make money when "nothing happens." In other words, they are financial transactions that produce a regular stream of income or accounting profits, but they subject the owner to the risk of a sudden loss when a particular event occurs or when underlying asset values change substantially. The "carry" is the income stream or accounting profits the trader earns over the life of the transaction. In this sense carry trades are closely related to selling insurance, an activity that provides a steady premium income but exposes the seller to occasional large losses. The classic finance carry trade takes place in the foreign exchange market, when a trader borrows in a low interest rate currency and invests the proceeds in another, higher-yielding currency. If "nothing happens"—that is, the exchange rate does not change adversely or changes by less than the interest rate differential—the trade is profitable. However, when things do happen, when exchange rates or asset prices move against the carry trader, losses can mount suddenly and substantially.

A significant part of this book is devoted to explaining these trades, particularly in the currency and the stock markets. One conclusion is that the greater liquidity and breadth of financial instruments in the US markets, as well as the dollar's role as the global reserve currency, has placed the US markets, and specifically the S&P 500 index, at the center of the global carry trade. A further purpose of the book is to convey how carry has come to dominate the global business cycle, creating a pattern of long, steady, but unspectacular expansions punctuated by catastrophic crises. The growth of carry—the development of a "carry regime"—has had major implications for the distribution of income and wealth. In the view of the authors, these processes and mechanisms have not been recognized or understood properly, even by those economists who focus on the links between power and the distribution of wealth and income.

The Characteristics of Carry Trades

Carry trades matter because they have now spread far beyond their origins in currencies (and commodities) to every corner of the financial markets. Carry trades share particular risks, and those risks are becoming the core driving forces of global financial conditions. Since central banks react to these conditions, global monetary policy is increasingly driven by the effects of carry and, as we will demonstrate, contributes to its further growth in a self-reinforcing dynamic. We will ultimately explain how this process is transforming capital markets and wealth distribution. To begin to understand this process, we must first start with a simple explanation of the characteristics of carry.

In this book we define all carry trades to share certain critical features: leverage, liquidity provision, short exposure to volatility, and a "sawtooth" return pattern of small, steady profits punctuated by occasional large losses. These characteristics are very important, because as carry has grown in size, these very features have begun to define financial markets themselves.

Carry by our definition always involves leverage. This means that carry traders either explicitly use borrowed funds or else utilize some set of contracts that creates a potential risk of loss greater than the amount of capital initially employed in the trade. This makes carry traders, and the people that lend them money, especially sensitive to losses. In an attempt to avoid losses, which can potentially be unlimited, carry traders are often forced to close positions when prices move against them. This necessarily means selling assets that are falling in price (or buying assets that are rising in price). Thus, the dynamics of managing carry trade risks create fire-sale effects in which initial movements in prices are often substantially amplified.

The expansion of carry trades always increases liquidity; the reduction or closing of carry trades leads to liquidity contraction. "Liquidity" can be a slippery concept, and the word is typically used in two ways. From a trading perspective, liquidity refers to the ease of transacting. An asset that is liquid can be traded quickly and cheaply and in sizable amounts. When carry trading expands in a certain asset class, that asset becomes, or at least appears to become, more liquid. There is also a volume perspective; from this perspective, liquidity refers to the amount of money or money-like instruments in

an economy. From this viewpoint, liquidity is related to the ease of obtaining credit and the availability of money in the economy, which is a fundamental driver of economic growth over the business cycle. The growth of carry thus means an easing of money and credit conditions and, since the availability of money and credit stimulates the economy, temporarily improved economic performance. By contrast, asset marketability, money, and credit conditions and the economy as a whole deteriorate suddenly and substantially during carry crashes.

Carry trades are "short volatility." This means they benefit from falling levels of variation in financial asset prices. More concretely, carry trades will provide a positive return above the risk-free rate as long as the volatility of the underlying asset, currency, or commodity price does not end up being higher than expected. Indeed, there exists a range of sophisticated carry trades that use financial derivatives to gain an income that depends directly on a relative lack of volatility of the underlying asset prices.

Carry trades can include everything from undertaking classic currency carry positions, writing insurance or selling credit default swaps, buying higher-yielding equities or junk debt on margin, taking out buy-to-rent mortgages to finance property investments, to writing put options on equities or equity indexes or buying exchange-traded funds that do so—but that is not all. Carry trades can also include dealings such as companies issuing debt to buy back their own equity or private equity leveraged buyouts, plus a whole gamut of more complex financial strategies and financial engineering. In all cases the carry trader is either explicitly or implicitly betting that changes in underlying capital values will not wipe out his or her income return; the carry trader is betting that underlying asset price volatility will be low or will decline.

The final feature of carry trades is their sawtooth return pattern. Profits typically accrue in a fairly smooth fashion, but they are punctuated by short periods of sharply negative returns—carry corrections or crashes. It could be argued that this pattern is not an independent characteristic but must follow naturally from carry's other features. While there is truth to this, we will show that the pattern of returns in itself is very important, as it attracts capital into carry from participants whose compensation is driven by short-term performance. Oftentimes these carry traders do not have the balance sheet

strength to survive a crash, and their presence is a significant destabilizing force in global markets.

Central Banks' Role in Carry

Different forms of financial carry have always been central to modern financial systems. Banks do it. They take demand deposits on which they pay a low interest rate—because the deposits are liquid, they can be withdrawn at any time—and make longer-term loans at a higher interest rate. Insurance companies do it. They take premiums by assuming risks. Why is there anything wrong with this? In this traditional financial sense, as well as with liquidity provision, carry can be seen as being associated with risk pooling. Banks and insurance companies have the balance sheets to pool risk, and they perform an economic function in doing so. In the case of banks, the central bank stands behind them as an ultimate backstop, able to provide liquidity in the case of a run.

A problem arises, however, when traders or institutions that do not have the balance sheet to withstand a major crash nonetheless engage in carry. In theory, an appreciation for the risks of carry should keep those with weak or unsuitable balance sheets out of the market. This is where the trademark pattern of carry returns plays a role. If a carry crash has not occurred for a substantial period of time, carry trades appear very attractive. Competition for returns will tempt, or even force, some market participants into carry trades. Since expansion of carry trading is associated with increased liquidity, then as new entrants establish positions, financial markets will experience an excess of liquidity and credit. Then, during the inevitable carry crash, this liquidity and credit will contract quickly.

This dynamic, especially the sudden reduction in liquidity and credit, will have negative consequences for the real economy. As asset prices fall and liquidity contracts, central banks act to stabilize markets. Of course, stabilizing markets means reducing volatility, which acts to limit losses on carry trades. Thus, the full extent of carry losses is never felt, and this allows at least some carry traders, who should have been wiped out, to survive. Those that survive are almost always insiders with enough political and financial clout to either influence government policy or react very quickly to it.

There is an additional, less understood but very important, consequence of this practice that leads over time to a gradual increase in wealth inequality. Wealthy investors with strong balance sheets—those that in theory should be natural participants in carry trades because of their ability to withstand crashes—also benefit from central bank stabilizing actions because they do not end up experiencing the full extent of the carry crash. While their financial strength means that they could have survived the crash, central bank intervention nonetheless saves them money, helping them accumulate still greater resources in the recovery that follows. Meanwhile, smaller investors can get wiped out or suffer a catastrophic loss of wealth in the crash.

Thus the role of central banks is central to the growth of carry. Carry trades provide liquidity and credit to the real economy. Central banks in their role of lenders of last resort and, at least in the United States acting to maximize employment, underwrite some of the losses associated with carry. This encourages further growth of carry, and a self-reinforcing cycle develops.

Long term, this leads to three critical outcomes. First, it makes prospering in financial markets less about competence and more about insider status, as insiders with weak balance sheets are able to survive carry crashes thanks to central bank action. Second, it reinforces wealth inequality by truncating losses for already wealthy investors who do not necessarily need, but nevertheless benefit from, action to suppress volatility. Last, the distinction between economic recessions and financial market downturns becomes increasingly blurry. Recessions no longer cause severe asset price declines, or bear markets; they are a function of the asset price declines.

Very few people have grasped this. Investors, economists, financial commentators in the media, and policy makers continue to think that an economic recession must have purely economic causes or must be caused by proximate policy or regulatory failures, and they think that financial markets then reflect the recession. We argue that the reality is that the S&P 500 itself has become central to the carry regime in global financial markets; a stock market crash does not signal recession—it is the recession. The cycle of carry bubble and carry crash and the economic cycle have become the same thing.

Over time this gives rise to a ratchet process, through which carry trades become an ever-larger and more dominant force over the economy, and the

necessary central bank and government intervention to halt and reverse consequent carry crashes and associated economic crises becomes correspondingly larger also. The financial structure, indeed the entire nature of stock markets and financial markets as a whole, evolves to become one that exists primarily to take advantage of carry trades and central bank or government intervention. Since carry always involves leverage, its continual growth leads to an accumulation of debt that makes this a fundamentally deflationary process—as long as it goes on—despite the enormous rise in asset prices that is a corollary of the carry bubbles. The rise in asset prices during the carry bubble phase acts to keep deflationary pressures at bay, and then the carry crash manifests as a "deflation shock." We define this ongoing evolution of the financial structure to be the "carry regime."

In the limit it becomes more obvious that this must fundamentally be a wealth-destroying process. The wealth that is made by the financial players (and businesses and individuals) who are implementing carry trades is not real wealth of the sort that derives from an economy's greater ability to produce better goods and services that the general population needs and desires. On the contrary, it causes financial asset prices to become hopelessly distorted, unhinged from the real economy, and therefore ends up misdirecting scarce capital into potentially unproductive uses. Over time, the economy will perform progressively more poorly, with income and wealth more and more concentrated in a few hands.

Nevertheless, it is also important to realize that the carry regime, as it progresses, fundamentally weakens the true power of central banks (and by extension governments). This may seem counterintuitive, but as with regulatory capture, central banks are themselves "captured" by carry. During the intensely deflationary carry crashes (such as occurred in 2008), they appear to have no option other than to increase moral hazard further, via even greater intervention and bailouts. In one of the various seemingly contradictory aspects of the carry regime, central bankers seem to have enormous power—their extraordinary power to create high-powered money, set short-term interest rates, and strongly influence financial markets with everything they say—but ultimately they themselves have little latitude to act. Central banks become merely the agents of carry. Their seeming immense power is, in reality, mostly illusory.

The ultimate, perhaps slightly unpalatable, conclusion from this book would be that in our present system, carry, volatility selling, leverage, profits, liquidity, and power are all very closely related, in the limit actually converging to the same thing. The economic system is developing toward one in which the "wealth," or market value, of any individual or individual entity is much more related to access (to the source of power) than it is to talent, merit, or more importantly the value of the individual or entity in terms of his, her, or its ability to contribute to increased living standards for society over time.

Today, the rise of carry is heading to some kind of zenith. No one can know what lies on the other side, but at the end of the book we make some general observations, at least with regard to the financial and macroeconomic arena. There is no hope of beginning to understand the future until the full importance of carry is understood.

About the Authors

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