

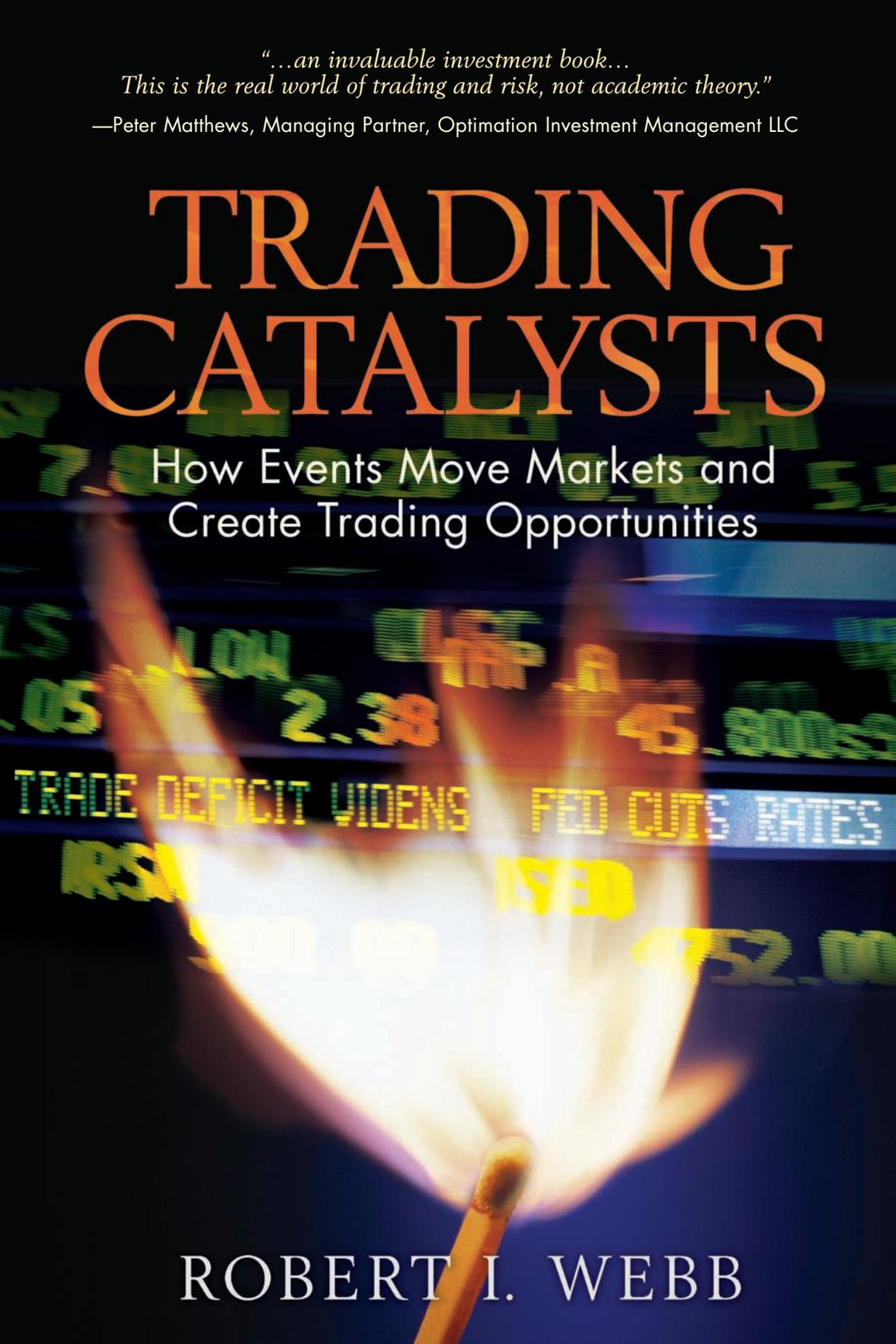
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TRADING CATALYSTS

How Events Move Markets and
Create Trading Opportunities



ROBERT I. WEBB

Trading Catalysts



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Trading Catalysts

How Events Move Markets and Create Trading Opportunities

Robert I. Webb

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*To my wife, Mary Beth, and my children,
Alexander, Elizabeth, and Diana.*

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PREFACE

This book owes its origin to my long fascination with the behavior of speculative prices, in general, and extreme market moves, in particular. My interest is driven by both intellectual curiosity about how news is incorporated into market prices and fascination with the potential for large gains or losses associated with trading around extreme market moves. This book is the culmination of many years of observing changes in financial market prices up close, as a trader, and at a distance, as a professor.

I was a doctoral student at the University of Chicago Graduate School of Business when the finance faculty included Fischer Black, Eugene Fama, Merton Miller, and Myron Scholes, among others; and the statistics faculty included Arnold Zellner—the brilliant Bayesian econometrician. Chicago was the birthplace of the *efficient markets hypothesis*—the notion that security prices fully and correctly reflect available information. However, the process by which new information was impounded into market prices was largely a *black box*. Although I was a student at Chicago during arguably the peak of the influence of the efficient markets hypothesis on academic research, the fundamental takeaway from my studies at Chicago was not the presumptive validity of market efficiency, or any other theory for that matter, but rather the importance of empiricism—that is, what do the data tell us? Indeed, the theory of market efficiency originated from seemingly puzzling observations by Maurice Kendall, Holbrook Working, and Harry Roberts that changes in speculative prices appeared to follow a random walk.

I was a newly minted Ph.D., and an assistant professor at the University of Southern California, when I watched silver and gold prices sometimes rise or fall sharply on a number of days during

the autumn of 1979. Clearly, the movements were too large and volatile to be explained by the arrival of new information alone, as the efficient markets hypothesis would suggest. Equally clearly, the actions of certain traders played a key role in many of the price moves. This episode eroded my belief in the validity of the efficient markets hypothesis, but increased my curiosity over how news is impounded into speculative prices.¹ It also led me to secure a two-year leave of absence from the University of Southern California and accept an appointment at the Commodity Futures Trading Commission in Washington, D.C. in 1980.

At the time, the Commodity Futures Trading Commission was a relatively new Federal Agency, having been created in 1974. Not surprisingly, the then-recent attempted “silver corner” was a common topic of conversation among Commission staffers as were other issues related to market surveillance. My work at the Commission gave me an opportunity to see raw news as it was reported. The Commission had a teletype machine that received news bulletins. The machine was located in a hallway closet next to the water fountain. I would stop by several times a day to read the latest news off the wires. I quickly recognized the important role that news editors play as I sorted through mounds of fluff for the occasional nugget of news. However, even bona fide news did not always seem to have the predicted impact on market prices.

My career took a slight detour when I was offered an opportunity to serve in the Executive Office of the President, Office of Management and Budget (OMB) in 1981. My boss at OMB was Larry Kudlow. The emphasis on domestic economic policy during President Reagan’s first term meant that OMB was the place to be in the Reagan Administration at the time—until OMB Director David Stockman was “taken to the woodshed” by the White House for some ill-advised comments.

When my two-year leave of absence was up at USC in 1982, I chose to enter the private sector and accepted a position as Senior Financial Economist at the Chicago Mercantile Exchange (CME), where I helped design new financial futures and option contracts. It was an exciting time to be at the CME as stock index futures contracts had only been introduced in April 1982, just months before I arrived. Working at the CME also afforded me the opportunity to observe the open outcry system on a daily basis from the vantage point of the exchange floor. The only thing that I was precluded from doing was entering the trading pits themselves—that was reserved for CME members (i.e., seat holders) and CME pit reporters. Active days were especially exciting to watch and I availed myself of every opportunity to do so. Although I was closer to the market, I was not closer to understanding how news is impounded into market prices. I left my position as an employee of the CME in 1983 and became a member of the Index and Options Market division of the CME. I was inside the “black box” at last. Finally, I hoped to get an answer to my question of how news is impounded into market prices.

An open outcry futures trading pit provides an unusually good vantage point from which to view the determination of market prices because a large fraction of total trades in an open outcry environment are between locals. Life as a “local” was fast-paced and exciting on active days, boring on tranquil days, but always intellectually challenging. I quickly found that many of the preconceptions I had about how speculative prices should behave were wrong. My advanced training in finance was initially a disadvantage in the pit because it made me intellectually rigid rather than flexible and open to new ideas. Some intellectual baggage was discarded. At the same time, my training at Chicago also helped me discover many potentially profitable trades. I saw firsthand the wide range of factors that could impact market prices in the short run.

In 1986, I returned to academia when I accepted a position at the University of Virginia. Almost immediately upon my arrival, I was

approached by the World Bank. At the conclusion of my first academic year at Virginia, I took a 15-month leave of absence to work in the Investment Department at the World Bank in May of 1987. At the time, the Investment Department was an active trader in fixed income markets—trading almost as much as a primary government securities dealer. The Investment Department managed a *liquidity portfolio* of about \$19 billion to \$22 billion, depending upon whether International Development Association and International Finance Corporation funds were included. (The purpose of the liquidity portfolio is to allow the Bank to continue to perform its principal function of lending to developing countries in the event of a financial crisis.) These monies were invested in high-grade sovereign securities. Befitting its status and its immense trading volume, the World Bank had direct telephone lines to the major investment and commercial banks. I rotated around the trading desk. My experience trading on the floor of the CME proved to be immensely valuable when I traded fixed income securities for the World Bank.

However, the experience of trading in the Investment Department of the World Bank also presented me with a new set of anomalies to think about. One group of these anomalies—the often puzzling reactions of fixed income prices to scheduled economic reports—inspired my book *Macroeconomic Information and Financial Trading* (Blackwell, 1994). I was fortunate to be on the trading floor during the stock market crash of Monday, October 19, 1987 where I observed the limited (and initially negative) reaction of the U.S. Treasury bond market to the crash. A few hours after the U.S. stock market closed, however, Treasury bonds scored their largest one-day rally ever in a *delayed* reaction to the stock market crash.

After my leave of absence was up, I returned to the University of Virginia. In addition to writing articles for academic journals, I wrote a number of opinion pieces for various publications including *The Wall Street Journal*, the *Nihon Keizai Shimbun*, the *Nikkei Weekly*, and *Investors Business Daily*. In 1994, at the request of students, I

started teaching a course on Financial Trading at both the McIntire School of Commerce and the Darden Graduate School of Business Administration at the University of Virginia. One of my former students, Andrew Peskin, was a particular help to me in that regard. A number of prominent traders, fund managers, and fund of fund managers have lectured to students in the course over the years including Arki Busson, John Henry, Paul Tudor Jones II, Peter Matthews, Drew Millstein, R. Jerry Parker, and Jeff Yass, among others. The comments of many of these speakers on the issues of the day have also influenced my views on the behavior of speculative prices. In 1998, I was appointed editor of the *Journal of Futures Markets*—a leading academic journal on derivative securities and markets. The *Journal of Futures Markets* has had two special issues on trading during my editorship.

This book has benefited from many conversations that I have had over the years with Hesham El-Naggar, Rick Gerson, Richard Jacobs, Gary Schirr, Paul Staneski, and Jules Staniewicz on a whole host of financial topics. I would also like to thank Victor Canto and Richard Leonard for their steadfast encouragement to write this book. A special note of thanks is due to Jim Boyd, Executive Editor at FT Press, and to Melody Koh for her research assistance in producing the various figures included in this book.

Finally, I would like to thank my wife, Mary Beth, my three children, Alexander, Elizabeth, and Diana, as well as members of my immediate family, for the patience, love, and encouragement that they showed me while I was writing this book.

Robert I. Webb

Endnote

- ¹ That said, the concept of informational market efficiency is a useful benchmark by which to measure the value of private information and assess whether there are any hidden risks associated with potential trades. Grossly inefficient market prices are unlikely to persist for an extended period of time.

6

MARKET INTERVENTIONS

“The causes of events are ever more interesting than the events themselves.”

—Cicero

A Tale of Two Market Interventions

On Friday, September 22, 2000, traders witnessed two major market interventions. One was intended to increase the foreign exchange value of the euro. The other was intended to decrease the price of oil. One was the result of collective action by a group of central banks. The other was a unilateral action by the U.S. government. One intervention came as a surprise to market participants. The other intervention was widely anticipated before it was announced. Both the actual intervention in the currency market and the anticipated intervention

in the oil market impacted prices and volatility significantly. Yet, judged from a longer-term perspective, only one intervention was ultimately successful.

Central Banks Defend the Euro

Around 12:15 P.M. London time on Friday, September 22, 2000, the European Central Bank (ECB) together with the Federal Reserve, the Bank of Canada, and the Bank of Japan suddenly bought billions of euros in a coordinated move intended to drive up the foreign exchange value of the euro.¹ This was followed by two additional rounds of euro purchases by the central banks. The coordinated intervention by the group of central banks took the foreign exchange (FX) market by surprise. The effect was immediate and dramatic. The euro quickly rose by over two cents against the U.S. dollar and triggered a rally on some European stock markets.² However, the effect of the intervention on the value of the euro was also short-lived.

The market impact of the coordinated intervention is depicted in Figure 6.1 and captured in the following excerpt from an article that appeared in *The Times* on Saturday, September 23, 2000.

...Although the single currency leapt close to 90 cents against the dollar soon after banks began buying euros just after midday, it later fell back to around 88 cents—only modestly above its value before the intervention began, but still well above the record low of 84.43 cents hit on Wednesday...

Yesterday's action caught markets on the back foot in the wake of persistent speculation that the US was unwilling to take part in a coordinated rescue attempt...The banks are already estimated to have spent between \$6 billion (£4.1billion) and \$8 billion in three rounds of intervention yesterday, with the European Central Bank spending as much as \$4 billion.³

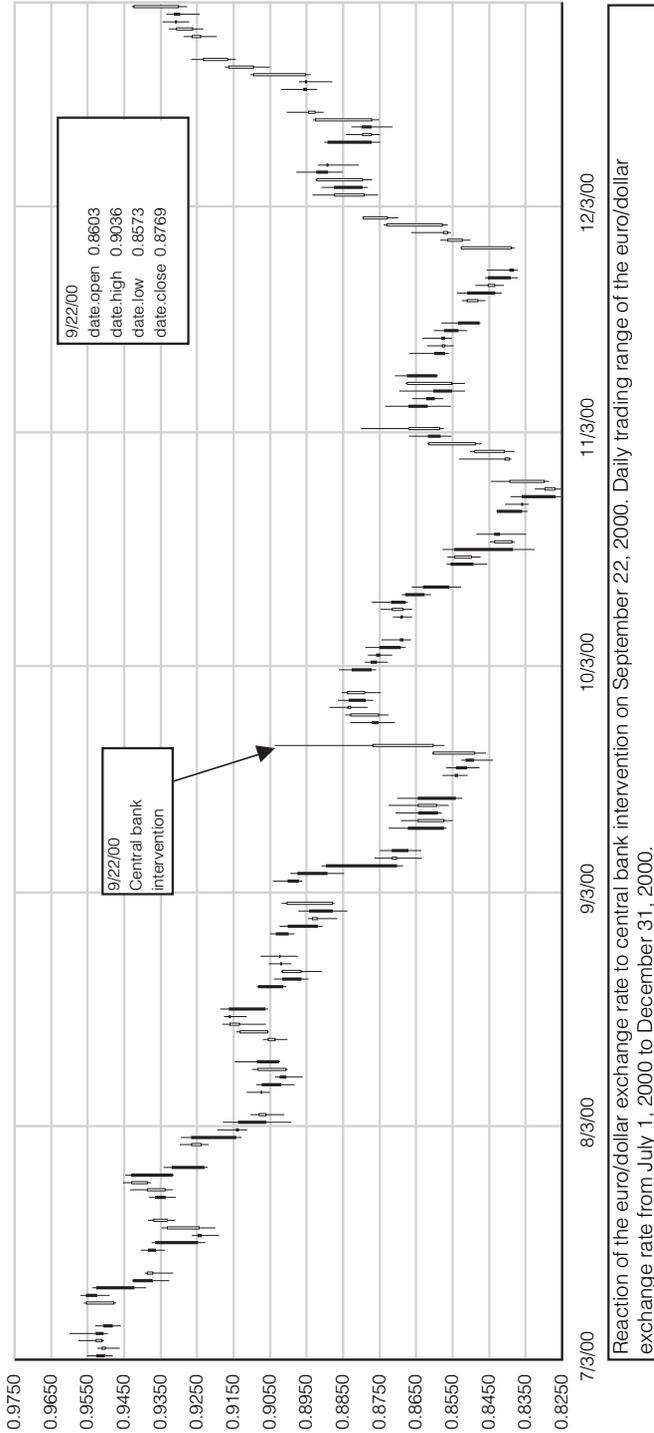


FIGURE 6.1 Central banks defend the euro.

The decision to intervene jointly to defend the euro was driven by persistent weakness in the euro and fears of what a weak euro might mean for economic growth. The euro, the common currency unit for most European Community member states, had basically been in a steady downtrend since its introduction on January 1, 1999. Ill-advised comments by Wim Duisenberg, president of the European Central Bank, and other officials from various European governments since its introduction buffeted the currency and exacerbated its decline. By Wednesday, September 20, 2000, the euro had fallen almost 28% below its initial exchange rate of € = \$1.17. The prospect of further declines in the euro prompted the central banks to collectively intervene to halt the slide.

Some observers attributed much of the power of the coordinated central bank intervention to the fact that the Federal Reserve participated in it.⁴ The participation of the U.S. Federal Reserve was surprising because the Clinton Administration was openly pursuing a strong dollar policy at the time. It was also surprising because the U.S. was in the midst of a presidential election campaign. Indeed, some market observers argued that concern that the Federal Reserve would not participate in a joint intervention to support the euro during the U.S. presidential campaign led to sharp declines in the euro prior to the joint intervention. Put differently, many traders believed that it was safe to bet against the euro because the U.S. would not intervene in the FX markets to support the euro and previous ECB interventions had proven largely ineffective.

Contemporary news accounts indicated that the central banks would be happy if the euro stayed above 87 U.S. cents.⁵ The question naturally arises as to whether the coordinated central bank action was successful. The answer depends upon the time frame one uses to evaluate the market impact. In the very short-run, the answer is yes. However, over a marginally longer period of time, such as a day, the answer is no. As the excerpt notes, there was an immediate upward

boost in the value of the euro following the successive rounds of intervention that largely disappeared by the end of the trading day. The euro resumed its downward slide against the U.S. dollar in subsequent trading days and reached an all-time low against the dollar of \$0.823 on October 26, 2000—significantly below the desired minimum of \$0.87.

The Bank for International Settlements estimates that over \$1.9 trillion of foreign currency trades every business day, based on results from an April 2004 survey.⁶ Most of the trading volume is concentrated in a handful of currencies. Even the largest central banks typically do only a small fraction of that total in a currency market intervention. In this case, the excerpt notes that the ECB spent \$4 billion trying to prop up the euro that day and the other central banks spent an additional \$2 to \$4 billion.

This raises a more fundamental question: Namely, why should central bank intervention to support a currency be successful at all given the large size of the foreign exchange market? The answer is that central bank interventions create short-term risks for market participants. To increase their impact, central banks often concentrate their interventions during market periods where liquidity is low and trading volume is low, such as around holidays or weekends. Academic studies have shown that trading volume follows a U-shaped pattern in many markets with significantly greater volume at the open and close of trading. Sometimes, the central bank or central banks can magnify the impact of a market intervention by triggering a price move that causes traders to cover their losing positions. This reinforces the central bank's actions and exacerbates the move in prices. Enlisting the support of key central banks can also have an impact as shown in the opening example with the participation of the Federal Reserve. The midday London time of the intervention allowed the central banks to influence trading in both London and New York—two of the three principal centers of foreign exchange trading.

Tapping the Strategic Petroleum Reserve

In the late afternoon (Washington, D.C. time) on the same Friday, the Clinton Administration announced a swap of 30 million barrels of oil from the Strategic Petroleum Reserve (SPR). The objective was to drive the price of crude oil down by flooding the oil market with “new” supply. The hope was that the action would trigger a decline in crude oil prices and a decrease in the price of heating oil and other key petroleum derivative products. Although the move was announced after the market closed, speculation that the administration would announce a swap drove crude oil futures prices down 4% earlier in the day. The price action is captured in the following excerpt, from an article by Katherine Spector, that appeared in *The Oil Daily* on September 25, 2000.

Talk that the Clinton administration was preparing to release US strategic reserves onto the market...sent the crude complex down further Friday after a week of volatility. November light, sweet crude on the New York Mercantile Exchange (Nymex) plunged \$1.32, settling at \$32.68/barrel.

Trade was somewhat tumultuous throughout the week, with the October contract reaching as high as \$37.80 Wednesday before expiring at \$37.20. But where the October contract went out with a bang, November came in with a fizzle, losing \$1.24 on Thursday, its first day as the front-month contract. Friday's decline leaves November crude \$2.56 below its \$35.24/bbl debut...

Products tumbled with crude, with October heating oil losing 4.41¢ to settle at 95.48¢/gallon, down a stunning 7.81¢ for the week.⁷

The Clinton Administration's decision was driven by rising crude oil and heating oil prices. Crude oil prices reached a 10-year high in the fall of 2000. Adding to the pressure on crude oil prices was a flare-up in tensions between Iraq and Kuwait. On Monday, September 18, 2000, New York Mercantile Exchange West Texas Intermediate

crude oil futures closed almost a dollar higher on renewed tensions between Iraq and Kuwait.⁸

Basically, Iraq accused Kuwait of stealing 350,000 barrels of oil a day from Iraqi fields bordering Kuwait. Iraq had a powerful weapon in its arsenal of threats to achieve its objectives. Iraq's weapon was not military but economic—the threatened withdrawal of its 2.3 million barrels per day oil production from the export market during a time when other Organization of Oil Exporting Countries could not make up the slack.

On Thursday, September 21, 2000, U.S. Vice President (and Democratic presidential candidate) Al Gore reacted to higher crude oil prices by proposing a program where oil from the SPR would be lent to, or *swapped*, with private oil companies. Under his plan, the oil would be swapped at rates determined in a series of five or six auctions of five million barrels each. The borrowed oil would be repaid with interest (i.e., additional oil) at a future date when the price of oil was presumably cheaper. At the time, the U.S. government had an estimated 570 million barrels of crude oil in the SPR.⁹

The Gore campaign released the vice president's proposal to tap the SPR to the news media in the early morning of Thursday, September 21, 2000 before a scheduled campaign event later in the day (and before trading in oil futures opened on the NYMEX).¹⁰ Not surprisingly, the oil futures market sold off on uncertainty over whether Gore's proposal would be implemented by the Clinton Administration. Coming in the midst of the 2000 presidential election campaign, the decision was also, not surprisingly, criticized as a calculated political move by the Republican presidential candidate Texas Governor George W. Bush and some market observers. The oil futures market sold off even more on Friday as it became apparent that the Gore proposal would be implemented. The reaction to the anticipated Clinton Administration decision to tap the SPR is depicted in Figure 6.2.

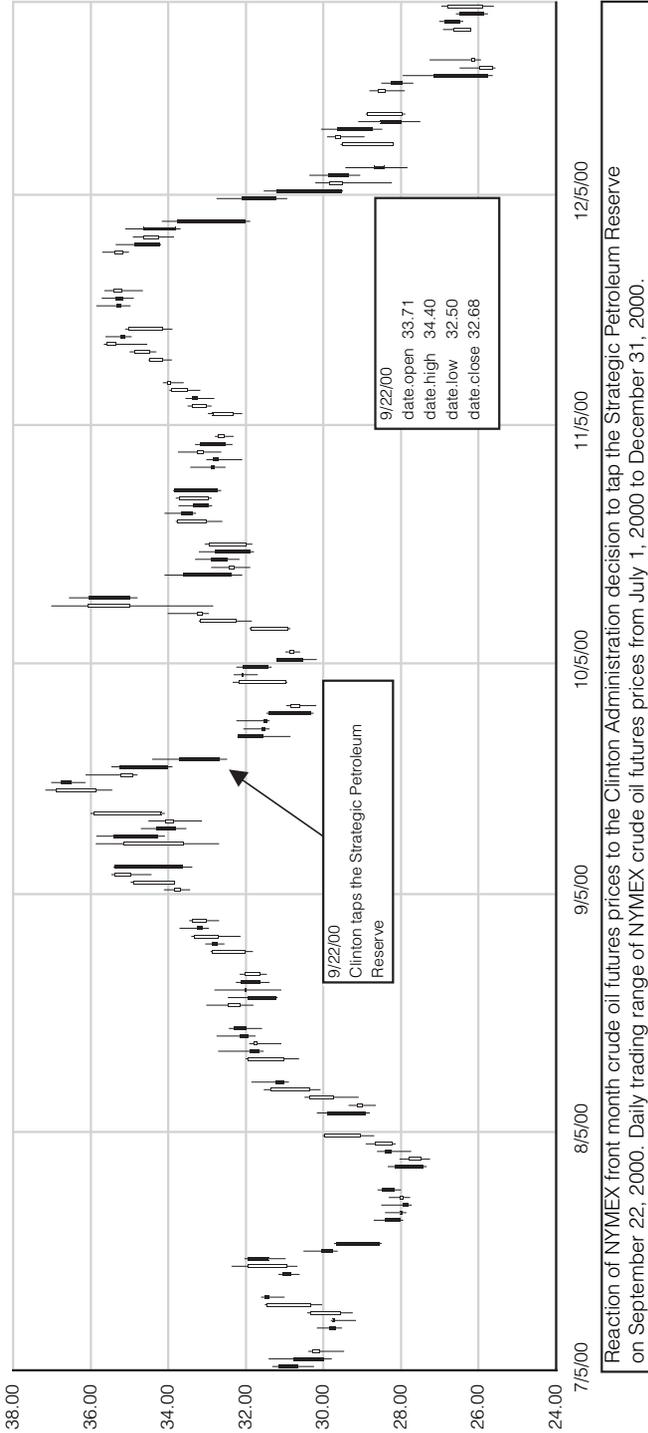


FIGURE 6.2 The U.S. taps the Strategic Petroleum Reserve.

The market's reaction to the Clinton Administration's decision to tap the SPR via an oil swap also illustrates how market prices may rise due to one trading catalyst—in this case, geopolitical factors in the Middle East—and fall due to another trading catalyst—in this case, tapping the SPR—even though the factors that sparked the initial rally (e.g., tensions in the Middle East) remained. To be sure, the price rally was due to the possibility of supply disruptions (i.e., Iraq refusing to export crude oil) and the price break was due to the possibility of additional supply coming to market (i.e., from the SPR). However, the price impact on heating oil is not as easily explained given the view at the time that heating oil production suffered not from a lack of oil but a lack of heating oil refinery capacity.¹¹

Recall that the official announcement of the oil swap came late Friday afternoon after the oil futures market had closed in the U.S. However, the desired effect was achieved before then as speculation on the impending announcement had already pushed crude oil futures prices down. This gave the Clinton Administration an opportunity to test the potential market reaction to the swap proposal by issuing it in the form of a *trial balloon*. The success of the oil swap stems, in part, from the fact that if the market had not reacted to it the proposal would probably never have been implemented. The success also stems, in part, from the fact that the surprise potential from tapping into the SPR was larger than it otherwise would have been precisely because many oil market participants believed that the Clinton Administration would not tap into the SPR during a presidential election campaign.

Market Interventions as Trading Catalysts

Market manipulation is illegal in most countries except when it is done by the government or the central bank. However, the ability of even the wealthiest central bank or government to maintain a price

different from the market price for an extended period of time is limited. Moreover, attempts to do so often consume substantial resources and usually result in wealth transfers from the public to speculators. The inevitable adjustment to the market price is usually sharp and quick. The economic dislocations that follow the adjustment can be substantial.

Attempts by central banks or governments to maintain a non-market price or exchange rate create short-term risks for traders betting on a change. A sudden large move triggered by a central bank or government intervention may be exacerbated by traders trying to cut their losses short. As noted in Chapter 3, “Talk Isn’t Cheap,” the attempts by governments and central banks to maintain a nonmarket price or exchange rate also create *one-sided bets*. The bets are one-sided in that the potential changes on either side of the current price or exchange rate are not symmetric. Simply put, traders face smaller potential downside losses than potential upside profits.

For instance, consider an example where the exchange rate for a currency has been artificially set above the market exchange rate. If the central bank is able to maintain the artificially high exchange rate, the trader who shorted the currency faces the prospect of losses if the currency rises above the rate that the currency was sold at as well as any *cost of carry*. The cost of carry is simply the interest that would have been earned had the funds been invested in a default-free security denominated in that same currency over the length of time the trade is open. In many cases, the principal potential loss is the cost of carry. In a low interest rate environment, the cost of carry can be relatively low for small short-term trades. Alternatively, if the central bank is unable to maintain the current artificially high exchange rate and the government devalues the currency, the trader faces the prospect of profits substantially in excess of the potential losses.

Attempts by central banks to maintain a nonmarket exchange rate not only create one-sided bets but also provide speculators the opportunity to do *size* (i.e., take a larger position) when taking the other

side of the trade. This encourages speculative attacks on a currency in certain environments—that is, the central bank may be able to maintain the mispriced exchange rate in normal times but not in a crisis environment. The crisis may be set off by a trading catalyst. It is important to emphasize that speculative attacks need not be coordinated conspiracies but are often the logical outcome when confidence is lacking that the central bank will be able to maintain a nonmarket exchange rate.

The inclination to intervene in the foreign exchange market differs across nations. Compared with many other countries, the United States rarely intervenes to support its currency or assist in supporting other currencies (i.e., weaken the U.S. dollar). The basic philosophy is that free markets should determine exchange rates. The opening example in this chapter is one exception. Another exception is discussed in the following excerpt from *Marketplace*, a financial news radio program, that aired on June 17, 1998.

...[T]he Federal Reserve Bank of New York began buying two maybe three billion dollars worth of yen in an effort to prop up the ailing Japanese currency. This was the first intervention in the currency markets by U.S. central bankers since 1995...and for today, at least, the effort worked with the dollar falling about 6.5 yen during the course of the New York trading day. The stock market liked...the action...and the Dow Jones Industrial Average rose 164 points...[or] 1.9 percent.¹²

The excerpt provides another demonstration of how a central bank intervention can have a substantial short-term impact on market prices—the dollar fell by 6.5 yen. It also illustrates how intervention-induced price changes in one market—the foreign exchange market—can impact price changes in another market—the stock market.

In contrast, the Bank of Japan has frequently intervened to keep its currency within a desired range. Sometimes, this has involved selling yen and buying dollars. Other times, it has involved selling dollars and buying yen. These interventions have often sparked large

changes in the dollar/yen exchange rate.¹³ The Bank of Japan has expended enormous sums of money trying to maintain its desired exchange rate. By one estimate, the Bank of Japan spent \$182 billion during 2003 and another \$100 billion during January and February of 2004 trying to maintain the yen within a desired trading range.¹⁴

In many instances, devaluations are preceded by denials that they will occur. This happened in Thailand shortly before the devaluation of the Thai baht on July 2, 1997, as noted in Chapter 3. It has happened elsewhere as well. For example, a sharp collapse in crude oil prices in the early 1980s put substantial downward pressure on the Mexican peso. Mexican President Jose Lopez Portillo famously pledged to “defend the peso like a dog” before abruptly devaluing the peso by almost 42% in February 1982.¹⁵

The common practice of politicians and policymakers denying a potential action before doing it extends beyond currency devaluations. There seems to be an implicit belief among many politicians and policymakers that the market is fooled by denials of the obvious. It usually is not. For instance, although Russia devalued its currency and defaulted on its debt on August 17, 1998, fears of a default hit financial markets days earlier as the following excerpt from an August 11, 1998 Reuters news story suggests.

Russian officials insisted on Tuesday that economic reforms would not be derailed despite a precipitous fall in financial markets...Prices for Russian government debt fell so low, traders said the market was pricing in a risk that either the rouble would collapse or Russia would fail to repay its creditors on time.

But Deputy Prime Minister Viktor Khristenko told a news conference he saw no such risk. “The question of a Russian default has not even been posed,” he said...

The Russian stock market has tumbled since last October on the heels of Asian markets...The benchmark RTSI-Interfax

share index ended down 9.11 percent at 109.90, a level not seen since May 1996, while yields on long-dated government debt soared to around 130-140 percent from Monday's close at around 90-110 percent.¹⁶

Just as denials by policymakers of prospective actions often lack credibility in the marketplace, so do announcements that appear to be an indirect implementation of some policy action that has been denied. For instance, on August 12, 1998, a Russian government announcement that it would carefully review purchases of foreign exchange nipped a nascent stock market rally in the bud and precipitated a 1.5% decline in stock prices when the announcement was interpreted by many traders as a precursor to making the rouble inconvertible. The announcement increased fears among traders of a rouble devaluation and default on Russian government debt.¹⁷ On August 13, 1998, the Russian equity and debt markets plunged.

Defending the Indefensible

A classic example of a one-sided bet occurred during the September 1992 European monetary crisis when speculators accelerated the Bank of England's decision to withdraw from the European Exchange Rate Mechanism (ERM) and allow the pound sterling to adjust to a new lower exchange rate against the German mark. Some background information on the crisis is instructive.

Before the euro was introduced in 1999, member nations of the European Community experimented with a system of largely fixed exchange rates among the currencies of participating member nations. The objective of the European Monetary System was to reduce volatility in exchange rates among European Community member currencies. The principal feature of the European Monetary

System was the ERM, in which currencies were pegged to the European Currency Unit, or ECU, (a unit of account) and allowed to fluctuate within a narrow band of 2.25% up or down.¹⁸ Governments could borrow funds from other central banks (most importantly, the Deutsche Bundesbank) to maintain the exchange rate within a narrow band. After some initial resistance, the British government joined the European Monetary System and ERM in 1990 when the pound sterling had a relatively high exchange rate to the German mark. The pound sterling entered the ERM at an exchange rate of DM2.9. This was an unsustainably high exchange rate. It was also an invitation for a speculative attack on the pound sterling at some point given the right trading catalyst.

The creation of the European Union appeared certain when the Treaty of Maastricht was concluded. It required the approval of the parliaments of all 12 member nations of the European Community. The Danish and British governments requested permission to hold referenda so that citizens of their respective countries could vote on whether the proposed treaty should be ratified. On June 2, 1992, the Danish electorate narrowly rejected the Treaty of Maastricht. French President François Mitterand decided that the French would also have an opportunity to vote on whether the treaty should be ratified, and a referendum was scheduled for Sunday, September 20, 1992.¹⁹ The Danish rejection of the Treaty of Maastricht (discussed in Chapter 4, “Geopolitical Events”) was a geopolitical event that served as a trading catalyst that (along with uncertainty over whether French voters would approve the treaty) cast doubt on the prospects of a successful European Union and likely encouraged speculative attacks on the currencies of various European Community members.

A full-fledged currency crisis emerged by early September 1992. Central banks of affected countries responded by raising interest

rates. The Bank of Sweden announced a target short-term interest rate of 500% in a vain attempt to slow selling of the Swedish krona. This was soon abandoned. The Italian lira came under attack and was devalued 7% on Sunday, September 13, 1992. The Spanish peseta came under attack. The pound sterling came under attack. The decline in the pound sterling accelerated on Monday, September 14, 1992. On September 16, 1992, the Bank of England raised short-term interest rates from 10% to 12% and later to 15%, even though the U.K. economy was arguably in a recession. The interest rate hikes failed. The Bank of England threw in the towel and withdrew from the ERM, effectively letting the pound sterling float. The Bank of Italy withdrew the lira from the ERM and decided to let it float. The Spanish central bank devalued the peseta by 5%. The collapse of the pound sterling is depicted in Figure 6.3.

George Soros is justly famous as the trader who broke the Bank of England on Black Wednesday. Various news reports suggest that Mr. Soros' hedge fund (whose principal trader was Stanley Druckenmiller) made over \$1 billion overnight from shorting the pound sterling during the crisis. George Soros indicated, in a later interview, that the Bank of England's decision to raise interest rates during a recession to discourage speculation was a signal that it was unable to defend the pound sterling and would have to exit from the ERM.²⁰ This gave him the confidence to have his hedge fund put on an extremely large short sterling position. During the same interview, Mr. Soros was asked whether he had assumed too much risk by taking such a large position if the Bank of England was able to maintain the exchange rate and the trade went against him. He replied that he had not because it was a one-sided bet, or as he characterized, it was an "uneven bet" where the potential losses were minimal and the potential gains were enormous.²¹

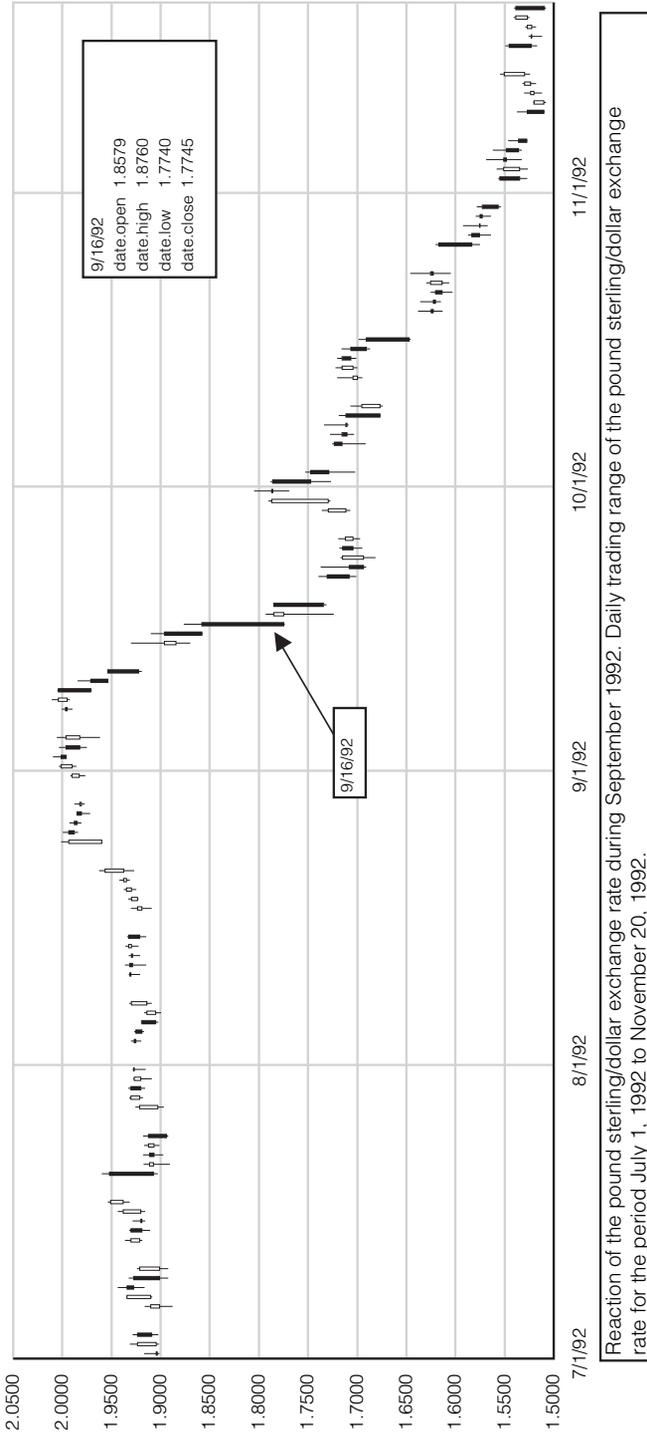


FIGURE 6.3 Calling a one-sided bet on pound sterling.

Although much attention has focused on the enormous trading profits that Mr. Soros' hedge fund and other currency speculators made that day, considerably less attention has been directed toward the total amount of losses that were incurred by the Bank of England in defending the indefensible exchange rate level. The Bank of England spent nearly £15 billion defending the exchange rate.²² Of course, not all £15 billion was lost. The *Financial Times* reported later that the Bank of England lost £3.3 billion from the misguided operations. At recent exchange rates, this translates into a \$6.1 billion loss.²³ Approximately one-fourth of the loss was attributed to outright trading losses with the balance attributed to lost appreciation of foreign reserves expended to defend the pound sterling.

Total central bank losses were larger because the Bank of England received substantial assistance from at least one other central bank during the crisis—Bank Negara Malaysia. Subsequent news accounts indicated that the central bank of Malaysia lost almost 10 billion ringgit, or about \$4 billion, at the time defending the pound sterling. *The Asian Wall Street Journal* reported that Bank Negara lost another 5.7 billion ringgit in 1993 from other currency speculation.²⁴ Another way of looking at it is that the Bank of England and Bank Negara Malaysia were engaged in currency speculation that resulted in a wealth transfer of billions of dollars from average citizens of those two nations to the foreign exchange trading community. It also highlights the considerable losses that central banks can incur when they attempt to manipulate the market.

Speculative attacks occurred on other currencies during this period as well. After the Bank of England stopped trying to defend the pound sterling, a speculative attack was launched on the French franc. This one proved unsuccessful as the Banque de France (together with the Deutsche Bundesbank) was able to maintain the French currency within the bands established by the ERM. The key factor in the success of the French effort to maintain the exchange rate was the active support of the Deutsche Bundesbank.²⁵ Some

observers contend that the support of the Deutsche Bundesbank was lacking when the Bank of England attempted to maintain the pound sterling exchange rate.

The Hong Kong Monetary Authority Intervenes in the Stock Market

A recurrent theme in this book is that trading is a game. As a game, trading strategies do not exist in a vacuum but are dependent upon the expected behavior of other market participants as well as institutional factors that may affect the trading process. The rewards from trading can be enormous. This creates a powerful incentive to anticipate correctly how prices will behave under various circumstances. In most cases, traders are simply trying to anticipate price changes and are unable to influence price changes by their actions taken alone. However, the potential for enormous trading profits also creates a powerful incentive for *some* market participants to attempt to *engineer* the desired price change by manipulating markets. The resultant trading strategies may be simple or complex, but the effects on market prices and volatility can be substantial.

Central banks are sometimes forced to intervene in unusual ways to fight attempts at market manipulation. One of the more unusual market interventions was the decision of the Hong Kong Monetary Authority (HKMA)—the de facto central bank of the Hong Kong Special Autonomous Region of the People’s Republic of China—to buy stocks and stock index futures during August 1998.

The decision of the HKMA is interesting for several reasons.

1. Central banks rarely intervene directly in the stock or stock index futures markets.

2. The intervention was a response to traders who were attempting to profit from a complex strategy that involved selling Hong Kong stock index futures and later selling previously borrowed Hong Kong dollars from the swap market in an attempt to drive interbank interest rates up and stock prices down.
3. The intervention attempted to exploit the mechanical nature of Hong Kong's currency board monetary system.
4. The size of the intervention was immense.²⁶
5. The actions of the HKMA were ultimately successful and the HKMA earned a substantial profit on the securities they acquired.
6. The intervention by the HKMA may have distorted the relationship between stock index and stock index futures prices and left apparent unexploited arbitrage profit opportunities for some time following the intervention.

To appreciate the decision of the HKMA to intervene in the stock and stock index futures market, it is important to understand how a currency board operates and what happened in previous speculative attacks on the Hong Kong dollar. First, a *currency board* is simply a monetary system in which changes in the local currency are tied to changes in central bank holdings of a foreign currency at a fixed exchange rate. Hong Kong utilizes a currency board to maintain a largely fixed exchange rate with the U.S. dollar. At the time of the crisis, the exchange rate was US\$1 = HK\$7.8. A currency board sharply limits discretion by the central bank. Instead, the currency board responds passively to changes in capital flows. For instance, additional Hong Kong dollars can only be issued if foreign reserves are increased by an equivalent amount (at the fixed exchange rate). Conversely, the conversion of Hong Kong dollars into U.S. dollars reduces the amount of Hong Kong dollars outstanding by the fixed

exchange rate. Interbank interest rates (the Hong Kong equivalent of the Fed funds rate) are a function of the total balance of funds held by the Hong Kong clearing banks at the HKMA. The lack of reserve requirements and the efficiency of the Hong Kong banking system mean that the amount is normally relatively low. Interbank interest rates rise when the aggregate balance falls and fall when the aggregate balance rises. The sudden dumping of a large amount of Hong Kong dollars will reduce the aggregate balance and raise the interbank interest rate sharply.

Second, soon after the Asian Financial Crisis began with the devaluation of the Thai baht on July 2, 1997, the Hong Kong dollar came under a series of speculative attacks. The attacks increased during October 1997. Although the fixed exchange rate link between the Hong Kong dollar and the U.S. dollar remained unchanged throughout the repeated speculative attacks, the adjustment to the attacks—higher short-term interbank interest rates—affected other Hong Kong markets. On October 23, 1997, the Hong Kong interest rate approached 300%.²⁷ Not surprisingly, this had a negative effect on the Hong Kong stock market. The sharp declines in the Hong Kong market that week and early the week after spilled over to the U.S. stock market on Monday, October 27, 1997.

The speculative attacks on the Hong Kong dollar failed. The currency board worked. Traders who had shorted the Hong Kong dollar in the expectation of an effective devaluation failed and suffered losses. The HKMA had maintained the fixed link to the U.S. dollar but at some cost to other markets. The speculative attacks demonstrated that the interbank interest rate could be pushed sharply higher when massive amounts of Hong Kong dollars are sold as a result of Hong Kong's adherence to the mechanical currency board system. The speculative attacks also demonstrated that a sharp rise in the interbank interest rate would depress stock prices. The sharp rise in the interbank interest rate also imposed a substantial opportunity cost on traders who were short the Hong Kong dollar. If the fixed

exchange rate remained impervious to a speculative attack, a trader who was short the stock market could benefit handsomely if a speculative attack drove the interbank interest rate sharply higher and stock prices sharply lower. Shorting stock index futures would be an easy and less risky way to put on a large short stock position.²⁸ To precipitate an attack on the Hong Kong currency, traders would need Hong Kong dollars to sell. This would expose traders who were short the Hong Kong dollar to substantial costs as short rates rose, unless the trader was able to obtain a sufficient amount of Hong Kong dollars in advance. This problem was solved by swapping into Hong Kong dollars with counterparties who had borrowed money in Hong Kong.

Trading is a game. As such, traders learn from past market behavior. However, so do central banks. As noted earlier, a looming crisis in Russia in August 1998 spilled over to other markets including Hong Kong. In addition, the Long-Term Capital Management crisis was brewing. Against this backdrop, the attempted manipulation of the Hong Kong market occurred. Mr. Joseph Yam, chief executive of the Hong Kong Monetary Authority, described the situation this way in a speech delivered in November 1998.

...One troubling aspect of the Asian crisis...has been the extreme volatility in markets created by the rapid flows of highly leveraged funds around the world. As markets in the region became more vulnerable, these flows increasingly took on a predatory character and became more and more subtle in their planning and sophistication. This August [1998]...the Hong Kong financial markets became the target of a well planned attack by international hedge funds...

In August the speculators...introduced a form of double play aimed at playing off the currency board system against the stock and futures markets. First, to avoid being squeezed by high interest rates, they prefunded themselves in Hong Kong dollars in the debt market, swapping US dollars for Hong

Kong dollars with multilateral institutions that have raised Hong Kong dollars through the issue of debt. At the same time, they accumulated large short positions in the stock index futures market. They then sought to engineer extreme conditions in the money market by dumping huge amounts of Hong Kong dollars. This selloff was intended to cause a sharp interest rate hike, which in turn would have sent the stock market plummeting. The collapse of the stock market would have enabled them to reap a handsome profit from the futures contracts they had taken out.

A few figures will help give some idea of the scale of this attack...We estimate that the hedge funds involved had amassed in excess of HK\$30 billion in currency borrowings, at an interest cost of around HK\$4 million a day. They also held an estimated 80,000 short contracts, which translated into the following calculation: for every fall of 1,000 points in the Hang Seng index they stood to make a profit of HK\$4 billion. If they could have engineered that fall within 1,000 days they would have broken even. If they could have achieved it within 100 days they would have netted HK\$3.6 billion. All they had to do was to wait for the best moment to dump their Hong Kong dollars, to drive up interest rates and send a shock wave through the stock market. August was an opportune time.²⁹

The HKMA recognized the potential market manipulation and sought to discourage similar future attempts by ensuring that the traders who were short 80,000 Hang Seng stock index futures contracts did not profit from their actions. The HKMA bought US\$15 billion of stocks and Hang Seng stock index futures contracts. The HKMA also changed some aspects of the currency board system. The actions were successful and the shorts lost money. By November 23, 1998, the value of the HKMA equity portfolio was up US\$4 billion from where it was acquired.³⁰

The effects of the HKMA intervention did not end immediately. A study by Professors Paul Draper and Joseph Fung [2003] argues that the HKMA's intervention in the stock index futures market had a significant and long-lasting impact on the *basis*, or difference, between the Hang Seng stock index and Hang Seng stock index futures price. The basis was negative rather than positive. Moreover, they argue that arbitrageurs did not exploit the potential arbitrage opportunity that the negative basis implied because of concern that the HKMA might intervene in the stock index futures markets again. Put differently, market participants faced a higher cost of having short stock positions after the intervention than before.³¹

Trading Lessons

The belief that central banks or governments can improve upon the prices generated in a free market is widely held by policymakers and politicians alike. It is the source of many attempts by governments and central banks to induce changes in prices through market interventions. It is also a source of significant profits for the trading community.

Market interventions can exert a dramatic effect on market prices and volatility. Often the effects are powerful but short-lived. Sometimes, they mark a local turning point in the trend of prices. In either case, market interventions by governments and central banks create both risk and opportunity for traders. The risk is that the central bank or government can push prices far enough and long enough to force traders to cut their losses short. The opportunity is that the central bank or government is not price sensitive and may create one-sided bets and allow large traders to bet against it with limited risks.

Central banks are the quintessential example of how one market participant can influence market prices. Market interventions work

best (from the policymaker's perspective) when central bank or government actions reinforce an existing trend or exploit a natural tendency of traders to minimize their losses—that is, to cut their losses short. Simply put, well-designed interventions can let the private sector do much of the “heavy lifting” required to achieve the short-term policy objective.

Precisely because the central bank is not required to make a profit on its transactions, it may engage in behavior contrary to what any rational trader would—that is, it frequently fails to cut its losses short. By willingly taking the other side to trades, the central bank enables traders to take a larger position size than might otherwise be available in the open market. For instance, by following a policy of defending an exchange rate that differs from what would prevail in a free market, central banks invite speculative attacks and create one-sided bets.

Trading is a game. As a game, trading strategies do not exist in a vacuum but are dependent upon the expected behavior of other market participants as well as institutional factors that may affect the trading process. Traders learn from their experiences. Although most traders are simply trying to correctly forecast changes in prices or volatility, a few traders try to engineer a desired price change by manipulating the market. These actions can have a substantial impact on even seemingly unrelated markets. Central banks also learn from their experiences and market observations. Sometimes, intervention is necessary to prevent market manipulation as the HKMA argued when it intervened in the stock and stock index futures markets during August 1998.

The trader must assess the probability of a market intervention by the government or its central bank. The trader must also assess the likely magnitude, duration, and direction of impact of the intervention. Many interventions are large but short-lived. Wide stops are not the answer given the potential magnitude of some intervention-induced short-term price moves. Indeed, the prospect of greater risk

induced by uncertainty over future market interventions may cause many traders to reduce their overall trading positions when there is a substantial risk of market intervention. It may also cause other traders to substantially increase their positions if they are extremely confident in their beliefs, for instance, that the central bank is no longer able to maintain a nonmarket exchange rate.³² When governments and their central banks attempt to defend unsustainable exchange rates or prices, they may not only create one-sided betting opportunities but also facilitate larger position sizes for speculators. In a one-sided bet situation, the trader should consider increasing his position size. The trader should also increase the stops on the trade to avoid being prematurely stopped out. Finally, the trader may shorten his trade horizon in an environment where there is substantial risk of market intervention other things being equal.

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- ¹ Market News International. “US TSYS up after Joint Euro Intervention – Global STKS Plunge.” September 22, 2000, 8:32 A.M.
- ² Steve Thompson, “London Stock Exchange—Euro Intervention Triggers Late Rally in Equities.” *Financial Times*, September 23, 2000.
- ³ Lea Paterson. “Markets on Standby for Further Euro Intervention.” *The Times*, September 23, 2000.
- ⁴ The U.S. Treasury is responsible for exchange rate policy in the United States. The Fed, in its role as the U.S. government’s banker, executes currency market operations for the Treasury. It should be pointed out, however, that the Treasury’s efforts to intervene to support or weaken the dollar impact the money supply by changing the amount of money in circulation. Consequently, the Fed can *sterilize* (or undo) the effects of the intervention by changing the money supply accordingly.
- ⁵ Agence France Presse. “US Joins Euro Intervention to Limit Potential Damage.” September 22, 2000.
The article points out that some market participants thought that the upward move in the euro was limited because, “Reports that both the ECB and the US Treasury would be satisfied if the euro stayed above 0.8700, also kept it from gaining further, they added.”
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exchange market was lower in September 2000. An April 2001 BIS survey estimated average trading volume of \$1.2 trillion. Bank for International Settlements. “Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity 2001 – Final Results.” (<http://www.bis.org/publ/rpfx02t.pdf>).

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- 12 David Brancaccio. *Marketplace*. June 17, 1998. (http://marketplace.publicradio.org/shows/1998/06/17_mpp.html).
- 13 Reuters reported the following example on April 10, 1998:

The dollar dropped more than four yen in Tokyo trade on Friday due to aggressive dollar-selling intervention by the Bank of Japan (BOJ), bankers said. The dollar fell toward 127.00 yen from a Tokyo high for the day of 131.55 yen, after...persistent bouts of dollar for yen sales by the central bank from late morning.

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- 15 “Defenderé el peso como un perro!” Not surprisingly, President Portillo was contemptuously referred to as “the dog” and barked at by his angry countrymen when he appeared in public.
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- ²⁴ Stephen Duthie. “New Governor at Bank Negara Has Tough Job.” *The Asian Wall Street Journal*, April 11, 1994.
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- ²⁶ Paul Draper and Joseph K.W. Fung. “Discretionary Government Intervention and the Mispricing of Index Futures.” *Journal of Futures Markets*, Vol. 23, No. 12, 2003, pp. 1159-1189. Draper and Fung [2003] point out that the HKMA intervened in the stock and stock index futures markets during a two-week period beginning August 14 through 28, 1998. They state:
- ...During that period, the government bought in excess of 7.3% of the total market capitalization of all stocks comprising the main market index. The government also indicated that its remaining free reserves would allow it to build up its total holding to more than 30% of the total market capitalization of the index stocks, creating a substantial potential threat to the market and the arbitrage process.
- ²⁷ Joseph Yam. Hong Kong Monetary Authority. “Coping with Financial Turmoil.” *Inside Asia Lecture 1998*, Sydney Australia, November 23, 1998. Mr. Yam notes in his speech that August 1998 was a particularly good time for speculators to implement their attempt at market manipulation because stock trading volume was about one-third of its usual amount, there was negative news about economic growth, and there were rumors that the currency peg might be abandoned.
- ²⁸ Shorting individual stocks is sometimes hard to do as the shares shorted have to be borrowed from someone first. It is as easy to go short as to go long with stock index futures. Moreover, traders are able to avoid individual company risk by trading stock index futures.
- ²⁹ Joseph Yam. Hong Kong Monetary Authority. “Coping with Financial Turmoil.” *Inside Asia Lecture 1998*, Sydney Australia, November 23, 1998.
- ³⁰ Joseph Yam. Hong Kong Monetary Authority. “Coping with Financial Turmoil.” *Inside Asia Lecture 1998*, Sydney Australia, November 23, 1998.
- ³¹ Professors Draper and Fung argue:
- [Central bank] Intervention, however, created a large negative basis between the index and the futures, a reflection of the increased difficulty and cost of short selling due to government intervention. The large negative basis lasted for a month following intervention, suggesting that government action created a risk element impeding arbitrage. A possible explanation arises from the low liquidity observed in the stock market

and the potential for substantial further intervention. These factors increased...the potential cost of covering or rolling over short stock positions...The risk of conducting index arbitrage was aggravated by the absence of term repos in the stock loan market...Despite futures being “cheap”, natural holders of stocks did not appear to sell stocks and buy futures, nor did they lend out stocks at (expensive) repo rates despite the apparent profitability of lending.

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4C Trading: A New Trading Giant On The Market. Less than a month ago, on June 15, 2019, two experienced providers, Crypto Addicts and CryptoMedics, merged and gave birth to 4C Trading, a group of channels with a variety of powerful services and instruments in store. Do you know what happens when Pepsi and Mentos are blended? Just find the video on YouTube and you will see a real explosion! Will 4C Trading and its cryptocurrency signals become the safest and the most accurate on the market? FX Trading's Groundbreaking Platform uses an Automated Arbitrage System that Yields Profits for Customers based on Real-Time movements in the CryptoCurrency Market. Even if you do not have experience in the CryptoCurrency Trading Market, This is an Opportunity to Earn Profits Automatically and Gain Financial Growth within a Reasonable amount of time. FXTrading Corporation WorldWide Events. FX Trading Corp Event in Thailand. FX Trading Corp Event in Vietnam. Corp Office in Busan South Korea. Trade 100 bonus. Work out for more. With training we grow our experience and get stronger. Trade 100 Bonus is created specially to boost your trading skills. Get free \$100 and practice Forex on bonus account! Get \$100 now. What you get with the Trade 100 Bonus. Free \$100 to trade. It's not a demo account. FBS gives you real money and real account to start your Forex journey. Boost your skills. To level up your trading you need power-ups: besides \$100 you get a full set of educational materials.