

# 3 The Three Amigos

## INTRODUCTION: THE THREE AMIGOS AND THEIR STRATEGY

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The conversation described in this chapter is a true story, and the characters are real. The dialogue took place some years ago among three options traders (Bill, Jimmy, and John—the three amigos), who believed they found a very clever way of making money. The three amigos traded together for more than five years. They were good friends, mutually respected one another, and consistently made profits using their highly opportunistic approach to trading. Whether they were very savvy, or very lucky, is for the reader to decide.

The three amigos managed a joint fund that often made over 100% a year during the years they traded, and they believed firmly that most of their profits were made off investors who were more focused on preserving their wealth than earning high returns. For the three amigos, it was a game, and they had their own stylized views about the strengths and weaknesses of their opponents and teammates.

The three friends believed firmly that, in most cases, the efficient market hypothesis was valid (i.e., all the

information that was known about a stock was fully reflected in the stock's price). Nevertheless, they thought that there were times when a stock could become temporarily mispriced, for example, when it fell below any reasonable estimate of the company's asset value or when a stock responded slowly and incompletely to new information. When either of those situations developed, there could be trading opportunities.

The three amigos viewed market efficiency as a process, not as a status. Prices, in their view, were always stochastically converging to changing equilibrium levels in response to new information, but they did not stabilize quickly at the new levels. Before prices had time to stabilize, more new information arrived, and they had to adjust again. Consequently, it was worthwhile to spend time finding trades with limited downside risk and good upside potential.

The three amigos thought it was possible to find situations where a price would either stay the same or move in one direction, but not in the other. They avoided outright long or short positions, preferring instead *spreads* that combined a long position with a short position, because, in their minds, this strategy gave better opportunities to control the downside risk and keep high upside potential.

But which stocks respond slowly to new information? In the three amigos' minds, the answer was quite simple: focus on stocks that did not have very many people watching them, because the returns on stocks with heavy daily trading volumes had been beaten so far down that attractive speculative opportunities were rare. At the beginning of the 1980s, which is when the conversation in this chapter took place, the U.S. stock market was out of favor. It did not take off until the fall of 1982, and before that, it had been mired in a trading range for 16 years.

There were hundreds of stocks that analysts did not follow very closely and professional portfolio managers did not buy. *Forbes* magazine called these large, unexciting companies listed on the U.S. stock exchanges “loaded laggards.”<sup>1</sup> Most of them were controlled by a family or an entrenched group of managers and were run for the benefit of the group that was in control. The stock price of those companies was, in many cases, well below what the company would have been worth in liquidation. Stock traders did not follow these companies very closely, and institutions did not bother with them either, because these companies were impervious to outside pressures, and their share prices did not move much. Those stocks were the type the three amigos looked at most carefully. The friends believed whenever there was a catalyzing event, like a takeover battle, they could find a way to participate in the upside move that was going to happen. Their objective was to find a quick trade, with a favorable risk/return profile and a total time horizon of a few weeks.

As you read the dialogue that follows, ask yourself if the three amigos’ strategy could work consistently today or if the markets are too efficient to allow such profits. The amigos talk about how option prices come into line with the prices of other securities. Their discussion centers on the behavior of speculators, bank trust officers, and option dealers, as well as how arbitrage can sometimes move call and put prices away from what their underlying expected payoffs would justify.

Here is a conversation among the three amigos in which they develop their option speculation and execution strategy.

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<sup>1</sup>See Steve Kichen, “Lovely Uglies,” *Forbes* 129 (6)(Mar 15, 1982), 150 (3 pages).

## DEVELOPING AND IMPLEMENTING A SPECULATION STRATEGY: A CONVERSATION

We pick up the dialogue among the three amigos on a Monday evening in mid-October 1981. The three friends were assessing how to play their hunch about Getty Oil, because all the ingredients for a successful trade were there. Getty Oil was a very likely takeover candidate, and its stock price was ripe for a quick upward move. Also, the price of crude oil seemed certain to rise, because tensions in the Middle East made supplies from the Persian Gulf look less reliable than usual, and speculators were looking carefully for companies with safe supplies of crude. The company had supplies that looked safe, and takeover battles for control of U.S. oil companies were in fashion. There were pressures in the market favoring consolidation, and the profit outlook for U.S. oil companies was also very good.

“Would you rather play in the casino or own the casino?” asked Jimmy rhetorically, as the three amigos sat down in the living room with their cups of coffee.

For the past five years the three amigos had been trading stocks, commodities, and options, and today they were sitting in a house Jimmy had bought with some of the profits. It was late afternoon, after the markets had closed. Jimmy often likened a trading opportunity to a casino gamble, and, with any trade, he always wanted to take the side that had the *house edge*. Jimmy, an international consultant who advised government officials on how to import wheat and corn cheaply, often heard about exotic deals in the countries he visited. He had the reputation of never spending two consecutive days in the same time zone, and flying as frequently as he did caused him to keep weird hours, but Jimmy was always alert, witty, and cool-headed—especially when discussing trading.

“Oh good,” sighed John, “Another safe investment. Not a concession to operate a casino on some island in the Caribbean, I hope?”

John was a college professor, who enjoyed putting theory to practice. Having traded for years, he was far from a novice; nevertheless, he enjoyed and appreciated the company of Bill and Jim, because they always brought him and his ideas back to earth—often with a thud.

The third person in the group, now listening in, was Bill. He was a man of few words, but when he spoke, it paid to listen. He had a natural knack for trading.

“No, I’m talking about something safe and prudent,” laughed Jimmy.

"Oh, good," John sighed. "For a second there I was worried you might be thinking of doing something risky. Like gambling. Now you wouldn't gamble, would you?"

"Me? Gamble?" laughed Jimmy. "You know I never gamble. All I do, from time to time, is make very conservative investments. Why, I'm as conservative as a little old lady who lies awake at night thinking the treasury bonds she keeps in her mattress are going to turn out to be forgeries."

"Yeah, conservative investments like buying options on margin," laughed Bill.

"Well," said Jimmy, "plain old utility bonds didn't have quite enough pizzazz."

"You can say that again," agreed Bill, putting down his coffee. "Stocks have been going nowhere lately. Not even down. The only action is in oil stocks."

The big oil companies were all running scared, because their stocks had been underperforming for years. Every week there was another takeover battle involving oil companies. The battles pitted colorful entrepreneurs from the oil patch against the Social Register crowd. Oil stocks had been making really big moves.

"So what have you got?" John asked Jimmy. "A bent politician who wants to sell a license to operate a casino?"

"No, it's a lot better than that," said Jimmy, leaning slightly forward in his chair. "It's an oil company."

"An oil company?" said Bill, looking interested.

"Yeah, a big one," said Jimmy. "Getty Oil."

"Getty Oil?" John exclaimed. "That's a big one. What have you heard? Is somebody going after it?"

"Well, maybe," answered Jimmy. "I haven't heard any more rumors about it than anybody else, but it's sure cheap."

"So we buy the stock and wait for somebody to try to take it over?" asked Bill.

"Better than that," answered Jimmy. "There are options."

"Yeah, that stock has options," John remarked, as he started to think about what Jimmy was going to suggest.

"So we buy calls on Getty Oil, and wait for somebody to try to take over the company?" asked Bill.

"Better than that," said Jimmy. "We sell puts and profit that way."

"Sell naked puts?" asked Bill.

"Well, maybe, but why go naked when we don't have to? We can get ourselves some insurance," answered Jimmy.

"I'm liking this. You're thinking the stock can't go down," John said to Jimmy.

"Can it go down? is my question" asked Jimmy doubtfully. "Right now Getty's ridiculously cheap. It's trading at four or five times cash flow and doesn't have much debt. Even a novice could buy the company at this price, liquidate it, and make a profit."

There was silence among the three friends for a moment as Bill and John assessed what Jimmy was suggesting. Getty Oil was a large U.S. oil company with lots of assets that were easy for outsiders to value, oil wells in the right places, as well as transport, distribution, and retail outlets. It had been profitable for years, and the stock paid a dividend, but the share had been boring to own because its price had fluctuated in the range of \$32 to \$35. Getty had been controlled by the same family-dominated group for decades, but there were rumors that the control block was breaking up.

Bank trust departments held a lot of the Getty shares. It was the kind of stock that bank trust officers bought for the trust accounts they managed, because the company was in a stable, easy-to-understand industry, and it was unlikely to fall substantially in value. To the three amigos, it seemed like the perfect stock for bank trust officers and other *wealth preservers*, as the three amigos called them, who were managing their portfolios to safeguard nest eggs rather than focusing on their returns. With such low return hurdles, the three amigos felt it was unlikely these individuals would stay abreast of the affairs of companies like Getty, and, therefore, a lot could happen without them knowing about it.

"Have you got any reports on the company?" asked Bill.

"Yeah, I pulled a couple of 10-ks, some articles, and a few analysts' reports," answered Jimmy.

Jimmy went into the next room, and came back with a stack of papers. He gave half the stack to John and half to Bill. Bill flipped through the pages, starting at the back where the footnotes were, as he always did.

After a minute John said, "What's the stock at, about \$80?"

"Try more like \$40," answered Jimmy, "and it was trading earlier this year in the \$32 to \$35 price range."

"Jeez, that *is* cheap!" John exclaimed incredulously. "What keeps it that low? Does the family still have control, or is there a poison pill or some kind of super-majority provision in the by-laws?"

"Nothing like that in the documents," answered Jimmy. "As far as I can tell, this thing's up for grabs."

For decades the Getty family had controlled the company, but the family had gradually sold portions of its holdings and, as a result, the shares were

mostly in the hands of bank trust departments and individuals who had no connection to the family.

"We'll have to check that," said Bill. "If there really isn't anybody who controls this thing, I'm really surprised nobody has tried to take it over. At 40 bucks a share, it's a steal. I can't understand what it's doing down there. It should be at \$60 or maybe \$70. With all the takeover activity going on, I could see it popping up to \$80 in a hurry if any big hitter makes a run at it."

"That's about right," John agreed, still flipping through the pages of the financial reports. "At \$40, it's going to have a hard time going down."

"So how are we going to play it?" asked Bill. "Sell the puts naked with the \$40 exercise price and just hope the stock stays above \$40?"

"No way." said Jimmy, "It's too risky. We need to think seriously about how to set up a trade that has a good enough risk/reward profile."

"The puts must be pretty cheap," said Bill, "if everybody is looking at the same data we are. They've gotta see the stock isn't going down, so they won't pay anything for the puts."

"If the calls are expensive, then the puts will be too," John said.

Bill looked up from the papers he had been reviewing and sent a quizzical look John's way.

John understood the look and said, "Believe me, the prices of the puts and the calls are linked. There's a way of arbitraging puts and calls. Dealers keep the prices of calls and puts linked pretty closely together when they arbitrage the markets. If the puts get too cheap, dealers buy them, buy the stock using borrowed money, and sell the call. If they do all the parts of the transaction at the same time, and get favorable prices, they can make profits with no risk. It's the perfect arbitrage, but they need to be quick, otherwise the risks can be significant. There are plenty of dealers that do arbitrage trades like that. So the puts are valuable even if everyone expects the stock to go up."

"So you're saying if the calls are expensive, the puts will be expensive too," said Bill, looking pensive and more and more interested in trading options on Getty Oil.

"And the calls on Getty Oil are expensive, because everybody can see the stock is cheap and pretty much has to go up," John said.

"All right, I'm going along for the ride with you guys," said Bill, seeing that Jimmy and John both liked the trade. "I'm liking this more the more I hear. If the puts are too cheap, a dealer buys them, buys the stock, and then sells calls. This is sounding good," said Bill, thinking aloud.

Bill was silent for a moment, and then he said, "Let's walk through this arbitrage transaction and see how a dealer would do it. Some wild-eyed

speculator hears a rumor about Getty Oil and decides he's absolutely gotta have a call on Getty stock. The dealer sees the demand for calls going through the roof and wants to satisfy the demand while making a profit with no risk; so, the dealer finds a put option for sale at a nice cheap price and locks in the first leg of his arbitrage by purchasing the put. Once the dealer owns the put, he can safely buy the common stock and finance it in the repo market, because the put protects his downside. That way, if something unexpected happens, and the stock suddenly falls, he can sell the shares at the put's strike price. Finally, the dealer sells the call, and that completes the arbitrage. He makes a profit, because the zealous speculator paid too much for the call."

"Or the dealer could do the trades in some other sequence," said Jimmy. "The dealer could start out by selling the call, and then look around for some cheap stock and a cheap put."

"O.K., I agree," said Bill, "And to make sure we all agree what's going on, where does the dealer get the cheap stock, which I can see is an important leg of the arbitrage?"

"Where else but from our old friends the wealth preservers—you know, investors like bank trust officers. I expect these guys to keep selling this stock for 40 bucks a share for a couple more weeks," John said, "because they've still got tons of it, and selling into this rally is just the kind of thing they always do. That's why the price is going up so slowly. Bank trust officers are taking advantage of the recent price rise to sell shares that have been in their trust accounts for many years. They'll keep selling for a few more weeks, because, in the aggregate, they hold millions of shares on behalf of their clients."

"Yeah, they will," agreed Jimmy. "They'll earn nice commissions and then buy some other 'safe' stock. This one will be getting too much play, and they will be worried that, if they don't sell at least some of their shares now, they'll miss the opportunity."

Bill was silent again, then said, "I'm thinking of how the dealer plays this. The bullish speculators are going to keep buying calls and paying big prices for them. The dealer, using repo market funding, has to buy the stock to keep from being exposed if the stock runs up. There's going to be plenty of stock on sale for the next few weeks, so the dealer will be able to get it without pushing up the price. Sounds good to me. The dealer will keep buying puts as long as the call is rising faster than the underlying stock. The dealer will be willing to pay a lot for the puts even though they're not worth much." The other two watched Bill as he thought about the arbitrage and the dealers. It all made sense, but it was against his trading instincts. He

was always more comfortable buying shares or buying calls when he expected share prices to rise.

In a few seconds Bill spoke again. "O.K., I see what you guys are thinking. The put prices are going to get pulled up as long as the calls are rising and as long as the dealers can borrow and buy the underlying stock without having to pay too much for it. There aren't very many puts being offered these days, and let's assume dealers are buying every single put that comes into the market."

Bill was good at thinking like a dealer. "They buy each put that becomes available and keep it," he continued. "And then, at the same time, these guys marry the put to 100 shares of the stock. So, if I have this straight, the trading of puts is mainly by dealers, who are buying them and keeping them, but the trading in the calls is different. Calls on Getty Oil are changing hands a couple of times a week or more, because professional speculators are buying the calls, and a day or so later, when they show a profit, flipping them to the enthusiastic, novice speculators, who think they've spotted a deal. With oil company takeovers making headlines, there are new speculators coming into the market every day looking to buy calls on companies, like Getty Oil. Just look at the paper. The trading volume in these calls has really skyrocketed. It's jumped more than the open interest. Meanwhile the open interest in the puts hasn't risen anywhere near as much, and the trading volume in the puts isn't up much at all." It was clear that Bill liked the trade Jimmy was proposing and wanted to talk more seriously about it.

"What we are saying is that speculators aren't buying the puts," said Jimmy. "Only dealers are buying the puts and only because they need them to complete their arbitrage transactions."

"Yeah, that's what's going on," John said. "Speculators wouldn't give much for the puts, because anyone can see the stock isn't going down. The dealers buy the puts, but only as part of the arbitrage. They need the puts to make riskless profits."

"So we agree that's why the puts don't trade as much as the calls?" asked Bill. "When somebody writes a put, a dealer buys it and keeps it to cover his downside, because he has to buy the stock too. If we agree on that, let's keep thinking about how we're going to trade this situation," he said briskly, to encourage the group to start refining the idea. "We agree the stock is cheap. We write an at-the-money put and hope to pocket most of the premium, and the reason the premium is high is because dealers need the puts in order to set up a major leg of their arbitrage."

Jimmy smiled because Bill was agreeing with the idea.

Bill again looked through the papers about Getty Oil. "The people who buy the calls in this case might make some money. This stock is so primed to rise that the people who pay \$3 for that December 40 call have a pretty good chance of earning a nice return," Bill said.

"You're right; we need the people who buy naked calls. Keep in mind that they're helping us as much as the bank trust officers are," said Jimmy earnestly.

"So, we're betting on naive optimists to buy naked calls and keep the premiums high. And that will make it possible for us to get a nice fat premium for the puts with the \$40 exercise price. What month are you looking at?" John asked Jimmy.

"Well, let's see. It's October now, so how about December? The puts are at \$2.50," answered Jimmy.

"So we write the December put with the \$40 exercise price . . . let's say 20 times," said Bill, thinking out loud. "Each option is for 100 shares, so \$250 times 20 . . . that brings in \$5,000 before commissions. Now how do we protect ourselves?"

"O.K., I like that. Twenty puts, bringing in five grand, that's a good start." John said. "Now what else?"

Bill spoke. "Let's buy a few of the 35 puts, and some 30s too. Those should be cheap, and they'll cover us on the downside."

"Yeah, that's what I was thinking," said Jimmy. "Like how many?"

"We have to decide how much of the five grand we want to give back," said Bill.

"I wouldn't mind giving back a good chunk of it if we could be sure of keeping say two grand, net, with hardly any risk," John said.

"We risk owning some Getty stock at 40 bucks a share, having the puts exercised against us, and then being forced to get rid of some of it at \$35 a share, and some more at \$30 a share," said Bill. "Is that gonna keep us awake at night?"

He was thinking that if Getty stock fell below \$40, the three amigos would have to buy 2,000 shares of the stock at \$40 a share. If the stock crashed to a price below \$30, say to \$19 a share, the out-of-the-money puts they were talking about buying would allow them to get rid of the Getty stock by exercising the \$35 and \$30 puts they had bought to protect their downside.

John answered, "Is it such a bad thing to own some of this stock at \$40 a share? If we end up owning some of it, we could just write the \$40 call, take in \$3, and sit tight."

"Yeah, but we're gonna do a lot of shares. We can't get stuck with 2,000 shares at 40 bucks. That's not our style," objected Jimmy.

"You're right. I was thinking of this as a good long-term investment. We've got to set up this trade intelligently and make sure we're in and out with a nice quick profit. We're not looking for a long-term investment." John replied.

"Right," said Bill. "Maybe we should sell more like 50 puts at the \$40 strike price."

"Now you're talking," said Jimmy.

"That'll focus our attention, for sure," John said. All of them were sitting forward on the edges of their chairs.

"Selling 50 puts at a strike price of \$40 and a premium of \$2.50 brings in \$12,500," said Bill.

"Not too shabby," John said, "So how do we protect ourselves if the stock takes a dive?"

"Well, the 35 put is only a buck, and the 30 put is a quarter. So let's look at buying a few of each of them," said Jimmy.

"Yeah, I'd say more than a few of them," argued Bill. "If we don't buy any of them, we run the risk of owning 5,000 shares of a stock at \$40 and having it go to zero on us. It's not likely the stock would drop that much, but we have to consider the possibility, because every once in a while something like that happens."

"That'd be a couple of hundred grand down the drain," John said automatically.

"Enough to get your attention?" smiled Bill.

"Yeah, we've gotta look at this," John said.

"So how about if we sell 50 puts at the \$40 strike price, buy 25 puts at the \$35 strike price, and buy 25 puts at the \$30 strike price?" said Bill. That way we'll take in \$12,500, and spend \$2,500 on the puts at the \$35 strike price and \$625 on the puts at the \$30 strike price."

John had been taking notes, which they now were looking at carefully (Exhibit 3.1). "Let's see. The stock's at \$40, the December 40 put is at \$2.50, the December 35 put is at \$1.00, and the December 30 put is at \$0.25. Why are we messing around with that December 30 put? Why not just buy 50 of the December 35 put?" Bill asked.

"You're saying you don't want to take the risk of the stock going down to 30 bucks a share?" John replied.

"Yeah, the December 30 put is too far out of the money to be much use for hedging the risk. We're not focusing enough on the risk or we'd see that," argued Bill. "To get our minds focused on this trade, let's talk about selling 100 of the December 40 puts."

There was a brief silence as Jimmy and John thought about what Bill had proposed.

**EXHIBIT 3.1** December Call and Put Option Prices for Getty Shares (*John's Handwritten Notes*)

<u>Stock and Closing Price of Getty Oil</u>	<u>Expiration Month and Strike Price</u>	<u>Call Price</u>	<u>Put Price</u>
\$40	December 40	\$3.00	\$2.50
\$40	December 35	\$6.00	\$1.00
\$40	December 30	\$10.50	\$0.25

"If we're talking about selling 100 December 40 puts, then we can't allow any more than \$5 a share of downside risk," John said.

"Right," agreed Jimmy. "With that big a trade, we can't risk losing 10 bucks a share. We'd have to buy 100 of the December 35 puts."

"So the trade we're talking about now is to sell 100 of the December 40 puts at \$2.50 and buy 100 of the December 35 puts at \$1.00. We take in \$25,000 and spend \$10,000. If the stock drops below \$40, we're probably going to own 10,000 shares of it at \$40. That's \$400,000."

"Right, but the December 35 puts mean we can sell the stock for \$350,000," said Jimmy.

"So we're risking \$50,000," said Bill.

"Well, less than that," John said, "because we'll have taken in a net of \$15,000 when we sold the December 40 puts and bought the December 35 puts."

"All right, we're risking \$35,000," said Bill. "We can lose as much as \$50,000 on the stock, and we'll take in \$25,000 from selling the December 40 puts, and we'll spend \$10,000 buying the December 35 puts."

"And we're making \$15,000 if the stock goes up or stays where it is," said Jimmy. "We keep the \$25,000 and kiss the \$10,000 goodbye."

"I'm sure the stock is going to go up this week," John said.

"O.K., we seem to be happy risking \$35,000 to make \$15,000," said Bill. "We all love this stock, and we're sure it's going up—aren't we, guys?"

"Yeah, we are," John said.

"All right, so am I. In fact, I'm so sure it's going up I'm seriously wondering if we're going to be able to sell 100 puts tomorrow morning and get \$2.50 apiece for them," agreed Bill. "But for the sake of discussion, suppose we can do it. Then let's think positively and assume the stock does go up. Say it goes to \$43 by this Friday. What do we do then?"

"Cover," said Jimmy.

"You mean buy back the December 40 puts, or do you also mean sell the December 35 puts?" John asked.

"I'd do both," said Jimmy. "We'd make a buck or a buck and a half on the December 40 puts, and lose half a buck on the December 35 puts."

He was predicting that in four trading days, if Getty Oil stock rose \$3 a share, the December 40 puts that had been trading at \$2.50 would have fallen to \$1.00, and the December 35 puts that had been trading at \$1.00 would have fallen to \$0.50.

"Yeah, I'd cover too," said Bill. "Those numbers are in line with my gut feel. The December 40 put would drop like a stone if the stock ran up a few bucks. December isn't that many weeks away. The December 35 put would drop too, but only by about half. When options get that cheap and fall to, say, \$0.50, there always seems to be someone who wants them, even though they hardly ever come back into the money. So I agree that's about what we would be able to get if we cover." He sat back in his chair and reached for the coffee pot to pour himself another cup.

"Not too bad. We'd net 10 or 15 grand. The trade ties up a couple of hundred grand of margin. Maximum downside is 35 grand. Downside's not gonna happen. I like it," John mused.

"Are we all in?" asked Jimmy.

"Yeah, roll it," John said, and Bill nodded in agreement.

## **A DEEPER LOOK AT THE THREE AMIGOS' STRATEGY**

The three amigos thought they found a stock price that was extremely unlikely to go down and a clever way of turning a quick profit from the situation. Their approach was to search for trades with good upside potential compared to the downside risk, and then discuss the pros and cons of each trade among themselves before doing any buying or selling.

Their conversation raises several points that deserve discussion. This section explains why the friends thought Getty stock price would not fall, and then gives their explanation for why it had not gone up already. They had one set of reasons for believing that the share price would not go down, and another set of reasons explaining why it had not gone up already to, say,

\$50 or \$60. This section also provides a step-by-step account of the reasoning behind the three amigos' speculative strategy. The friends' conclusion about Getty Oil's share price relied heavily on the assumption of market segmentation and inefficiency.

### **Why Getty's Share Price Would Not Fall**

According to the three friends, Getty Oil's share price would not go down, because the company was selling at such a low multiple of its cash flow, had assets that raiders could easily value, and would be easy to liquidate. They also believed that the company's control block was breaking up, and Getty Oil would soon be "in play" (i.e., the new owners of large blocks of stock would fight to control the company), which would drive up the share price.

Recent events convinced them that a raider could take over the company by offering to pay \$50 or \$60 a share (i.e., a 25% to 50% premium), because, at the time of their meeting, buyout offers like that were happening frequently. A raider would borrow all the money needed to buy 100% of the shares, and then use the cash flows of the company taken over to repay the debt. Getty Oil's cash flows at that time were easily high enough to pay off the debt needed for a takeover, and the amigos believed that shareholders would accept the raider's offer, so they were convinced that Getty stock was very unlikely to fall.

There were also encouraging developments supporting their views. The second OPEC crisis was a recent memory, and the price of crude oil was oscillating around \$40 a barrel. T. Boone Pickens, a colorful multimillionaire from the Southwest, tried to buy control of Gulf Oil, a huge company that had been underperforming for years. Gulf Oil had long been dominated by a group of patrician families in Pittsburgh, who were part of the group that controlled the Mellon Bank and other pillars of the U.S. economy. The audacious raid on Gulf Oil put all large, underperforming oil companies in the spotlight. Although Pickens did not win control of Gulf Oil, his attempt raised its share price and showed that there was a new group of powerful financiers who could challenge the complacent, previously unassailable groups that controlled many large companies, including Getty Oil.

### **Why Getty's Share Price Had Not Already Increased**

The three amigos had a ready explanation for why Getty's share price had not already increased. Their explanation relied on the belief that Getty shareholders were not homogeneous (i.e., the market for Getty stock was segmented). The friends believed that four types of investors owned or potentially owned Getty Oil stocks, each holding its own view on the reason for ownership, and each with a different threshold, horizon, and attitude

toward risk. Of the four, they believed that the lion's share of their profits would come from the pool of wealth preservers, who owned shares, and the pool of naive and zealous speculators, who bought naked calls.

### **Wealth Preservers**

The largest shareholder group was composed of wealth preservers. The three amigos characterized this group as generally disinterested in business, not particularly informed about the stock market, or not likely to read financial statements (except for taking a peek occasionally to make sure their accounts were still there and growing a bit). Many of them never had discretionary authority over their portfolios, often because that authority was delegated to bank trust officers years earlier. This group slept soundly each night, because they believed their portfolios were safe and their wealth protected.

You might be asking yourself why these wealth preservers would voluntarily pass up opportunities the three amigos saw so clearly. The answer is incentives. The three amigos felt that many individual investors and most trust officers held stocks mainly for capital preservation rather than reasons connected to optimal risk-to-reward ratios. Because these shares were safe and earned steady dividends, they were held in portfolios for years. As a result, bank trust officers had grown accustomed to the lackluster but steady performance of shares, like Getty. Individually, each portfolio may have owned only a few hundred shares, but, in aggregate, total holdings were in the millions.

As a result, the group of wealth preservers was comfortable with Getty's valuation at \$32 to \$35, the price range within which Getty shares had fluctuated for some time, and was delighted when the price moved at all upward. As Getty's share price rose, these holders would sell and keep selling to take advantage of any price uptick in order to secure a capital gain. Because of this steady supply of Getty shares to the market, and because these investors were only selling a few hundred thousand shares a day, the three amigos believed the sell-off could go on for several weeks, and until the portfolios were emptied, the share price would remain below its new (ultimate) equilibrium value.

### **Zealous Speculators**

The second group of (potential) shareholders was composed of speculators, who were raring to buy naked calls, in the hopes of profiting from a rumor, tip, or flash of genius. These individuals were often rookies or occasional speculators, thinking they had figured out something that nobody else knew.

### **New Buyers: Raiders and “Arbs”**

The third group of shareholders was composed of new buyers of Getty shares. This group was much more aggressive, better informed, and hoped to make a quick profit. The new buyers thought the Getty stock was undervalued and would probably rise within a few weeks to the \$50 to \$60 range. Their demand would absorb some of the shares the wealth-preserver group was selling, and it would fuel the increase in share price. In the end, this group would probably own the majority of Getty Oil. The new buyers included large investors, among them raiders and the leveraged speculators, nicknamed *arbs*.<sup>2</sup> Raiders accumulated blocks of stock, and then one of them would announce that he was seeking to buy much more, at an above-market price, in a bid to control the company. When a raider made that announcement, a bidding war often would break out, and the stock price would rise swiftly.

The arbs were big speculators who bought blocks of company stocks, not intending to get control of the companies, but in hopes of making big gains by selling them to the highest bidder after the bidding war broke out. They tried to guess which stocks the raiders were targeting.

In the three amigos' view, there was a high likelihood that a raider had already accumulated a block of Getty Oil, and they were fairly certain that arbs were also buying Getty shares. For these reasons, the friends believed Getty's share price was rising, but the arbs and the raiders were a clever lot, who knew how to accumulate large positions while minimizing the upward impact on the stock price. Of course, they were only able to do that because the wealth preservers kept selling.

### **Option Dealers**

The final group of Getty shareholders was composed of option dealers, who did not have (or need) an opinion about what the stock was worth and did not care whether it went up or down. They were happy to make riskless profits by matching buy and sell orders and by arbitraging the prices of puts and calls when these prices got out of line.

The three amigos recognized that, when dealers engaged in the bread-and-butter business of arbitrage, they needed to buy Getty stock to protect themselves. Like the raiders and arbs, the dealers were able to buy Getty stock without driving up its price substantially, because wealth preservers

<sup>2</sup>Technically, *arbitrage* is the simultaneous buying and selling of assets to make *riskless* profits, and the nickname for an arbitrager is an “arb.” But the term has become twisted. Today, an arb is a speculator who tries to profit from minor, temporary inconsistencies among the prices of investment assets, indexes, and derivatives. These trades are often complex and rely on computer models, but a common denominator is that they are usually not risk free.

were selling Getty shares and taking small profits, instead of larger ones. The wealth preservers were accepting a low return, which allowed the three amigos, the arbs, and the raiders to make a higher return than the market normally allowed.

After enough Getty stock passed into the hands of arbs, raiders, and other short-term speculators, the excitement would really begin. The new buyers would own the stock at a higher cost basis and many of them would finance the share purchases with borrowed funds.

### **Step by Step: The Three Amigos' Speculation Strategy**

Understanding how the different shareholder groups were categorized and their motivations for trading and investing is a central pillar for explaining the speculative trading strategy of the three amigos. Another important pillar is their assumption that interaction among these groups was not simultaneous. Rather, the interface was iterative, thereby creating small, temporary pricing discrepancies that allowed the quick and agile to profit for brief periods of time. Exhibit 3.2 provides an overview of the iterative steps as seen through the eyes of the three amigos.

#### **Step 1: The Speculators**

In step 1, speculators swing into action by purchasing call options at the onset of a bullish rumor, which increases the demand and the price of calls.

#### **Step 2: The Dealers**

In step 2, the dealers take over. If the price of calls rises, dealers will check the price of puts and the price of the underlying common stock to see if they can do an arbitrage transaction to earn riskless profits. When all three prices are not aligned, dealers can arbitrage by, for example, selling the call, buying the put, and buying the underlying common stock using borrowed money, but the dealer has to be alert and quick to set up this position at advantageous prices, because so many other dealers are trying to do the same maneuver. Nevertheless, dealers have frequent arbitrage opportunities, because news breaks and causes pricing discrepancies.

Even if no arbitrage opportunities are available, dealers, who want to be market neutral, sell the calls and then hedge their positions. To hedge their short call positions, they transact the same deals as if they were arbitraging, namely, borrow, buy shares of Getty on the spot market, and simultaneously buy puts at the same strike price as the call they sold. The net effect of combining a long share position with a short call and a long put (both at the same strike price) is a market-neutral asset (i.e., an asset whose return does not vary with the share price).

**EXHIBIT 3.2** Iterative Steps and Logic Behind the Three Amigos' Views on How to Profit from Imbalances in Put-Call Parity

<i>Time Line</i>	<i>Cause and Effect</i>	<i>Put</i>	<i>Share</i>	<i>Call</i>	<i>Credit Market</i>
<b>1</b>	<b>Rumor of Getty takeover</b> Speculators swing into action and demand calls			Demand Increases (Price of calls rises)	
<b>2</b>	<b>Dealers hedge</b> A Supply calls B Demand puts C Borrow (Repo market) D Buy shares			Supply Increases	Demand Increases
<b>3</b>	<b>Wealth preservers see an opportunity to make return</b> Sell Getty shares		Demand Increases		
<b>4</b>	<b>Credit market supplies repo funds</b> Supply of credit increases			Supply Increases	Supply Increases
<b>5</b>	<b>The Three Amigos and other speculators take positions</b> Supply puts				
	<b>Net effect</b>	Put price rises initially and is then restrained by the speculators	Getty's share price increases initially but does not rise quickly due to supply from wealth preservers	Call price rises initially, and then is restrained by dealers' hedging transactions	Market yield may rise slightly, but, due to the breadth and depth of money market, not much

The three amigos believed the dealers were the only ones buying the December 40 puts, and the dealers were buying the December 40 puts as part of their arbitrage transactions. As a result, the puts would be bought and held by dealers, unlike the calls that would be actively traded by speculators. In other words, an investor writes the put and a dealer buys it to set up the arbitrage transaction. As part of that arbitrage transaction, the dealer then sells a call. The three amigos believed the buyers of the calls were often novice speculators, whose time horizon was very short and whose nerves were unlikely to withstand the hour-to-hour and day-to-day fluctuations of the market. If these speculators were nervous and overreacted to market fluctuations by selling out early, then call options, according to the three amigos' reasoning, traded much more often than the puts.

### **Step 3: Wealth Preservers**

One would expect the price of a Getty share to rise with the increased dealer demand, but in the three amigos' eyes, the price of these shares stays temporarily below its ultimate equilibrium price, because wealth preservers see the price increase as an opportunity to unload, for a profit, shares that had been languishing in their portfolios for years.

### **Step 4: Repo Credit Market**

To finance their share purchases, the dealers would enter the repurchase agreement market and use the shares they purchased as collateral for the loan. The increase in the demand for funds could raise interest rates and make financing more expensive, but the three amigos felt the credit market was so broad and deep that the chances of this happening were small or the increase in rates would be marginal.

### **Step 5: The Three Amigos and Other Speculators**

Knowing that dealers would engage in this arbitrage transaction every time there was even the slightest discrepancy among the cost of borrowed funds and the prices of shares, call, and puts, the three amigos concluded that the price of a December 40 Getty put was too high. They decided that arbitrage transactions were distorting the market prices of the calls and puts, and therefore, in their opinion, it was fairly safe to write put options.

To the three friends, if it were not for dealers' arbitrage transactions, the put options would be selling for much lower than \$2.50 (maybe as low as \$0.50). They reasoned that puts were attractive to sell but not to buy, because any speculator who bought the December 40 put at \$2.50 would have very little chance of profiting, due to the extreme unlikelihood of Getty share price falling. Any arbitrage opportunities for dealers would be

due to naive or eager speculators offering to pay a call price that created a pricing imbalance. Then dealers would spot the imbalance and swing into action.

The rising open interest in the put options indicated to the friends that the market was also creating many new calls, and the rising trading volume in the calls indicated to them that the supply and demand activity for calls was strong. These facts were signals to the group that dealers would bid to obtain puts, because until the dealers could get puts, they would not be able to write new calls safely.

With this information, the logic becomes easier as to what the amigos thought was driving the mispricing and which asset was most out of line. The stock was too cheap, so the amigos could buy it for \$40 and reasonably expect to sell it for \$50 in a few months. The December 40 calls were also a bit too cheap, because the amigos could buy them at \$3 and probably make a profit. But the puts, according to their analysis, were the most mispriced of all the assets. Therefore, the three amigos figured they could sell puts at \$2.50 and probably make a profit of \$2.00, or maybe even keep the entire \$2.50. It was only their risk aversion that compelled them to hedge by purchasing out-of-the-money puts as insurance policies.

The three friends took advantage of the temporary misalignment of the put price. They figured that if dealers were buying puts to cover their positions, then the price of puts must be rising, which meant the price of puts was rising, because the price of calls was rising. An added benefit of their strategy was that, by entering the market as seller, they got the house edge, which meant every day that passed, the value of their short puts went up, because there was less time for the options they sold to expire in the money. By contrast, long calls lost value with each passing day, unless the stock price went up. That was what Jimmy meant when he referred to *owning the casino* instead of paying to play in it. He was aware that most options expire worthless, and each day that passed eroded the time premium; so he preferred to write options and not buy them.

## Put-Call Parity

The key that unlocks the three amigos' trading strategy is put-call parity. The *Law of One Price* states that identical assets should have identical prices, and when they are not equal, riskless profits can be earned by simultaneously buying the asset in the cheap market and selling it in the dear market. For that reason, the prices of calls and puts have to obey a simple relationship, called *Put-Call Parity*, which is shown in Exhibit 3.3.

The price of a put at a certain strike price (let's call it X) plus the current price of the share must equal the price of a call at the same strike price as

**EXHIBIT 3.3** Put-Call Parity

$$P + S = C + DPV(X)$$

<b>P</b>	P is the price of the put with strike price X
<b>S</b>	S is the price of the underlying common stock
<b>C</b>	C is the price of the call with strike price X
<b>DPV(X)</b>	DPV(X) is the discounted present value of a zero-coupon bond with face value equal to X (i.e., the exercise price of the call and the put). The zero-coupon bond matures when the put and call expire, and it is discounted at the risk-free interest rate.

the put (i.e., X, again) plus the discounted present value of the strike price (see Exhibit 3.3).

In abbreviated form:

$$\mathbf{P + S = C + DPV(X)},$$

so, subtracting the share price, S, from both sides we can see that:

$$\mathbf{P = C + DPV(X) - S.}$$

It was for this reason the three amigos surmised that, if calls were expensive, then puts must also be expensive. Assuming all other things remained the same, if the price of a call (on the right side of the equation) rose, then the price of a put (on the left side of the equation) must also rise.

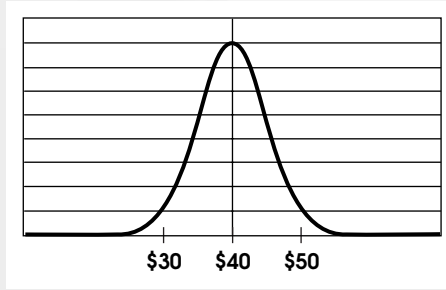
### Another Look at the Three Amigos' Speculative Strategy

Many of the decisions made by the three amigos, including the Getty decision, were made without formal statistical analysis; nevertheless, behind their decisions was a conceptual framework with some hefty assumptions. Exhibit 3.4 shows a Getty stock with a mean of \$40 and normal distribution of possible share prices surrounding it.

Exhibit 3.4 implies that Getty's share price has an equally likely probability of rising above or falling below \$40. In other words, the company is not going through a massive transformation of its ownership, will not be the target of a takeover bid, and is not embroiled in any major industry or company-related problems that would cause the price to move substantially in one direction or the other.

When the three amigos were talking about Getty Oil, they viewed the distribution of possible Getty prices as being normally distributed, but they

**EXHIBIT 3.4** Normally Distributed Getty Share Price With \$40 Mean  
*(Dispersion of Outcomes for a Typical \$40 Investment)*

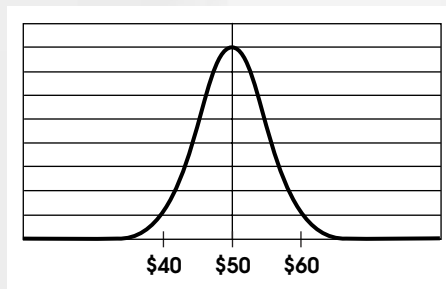


felt the mean price should be around \$50, which means the \$40 market share price was too low (see Exhibit 3.5). In short, they viewed the probability of the share price falling below \$40 as being minute, and the probability of Getty's price rising above \$40 as being much larger.

### **Does the Price of an Option Always Reflect Its Expected Value?**

The three amigos believed that, most of the time, the price of calls and puts were efficiently priced, and, therefore, these prices reflected the information that was known about the underlying stock. Under such circumstances, the markets were in equilibrium to the extent that systematic excess profits could not be earned. The price of calls and puts could be fully explained by option pricing formulas, like the Black-Scholes formula, which consider variables like time to expiration, strike price, dividends, the

**EXHIBIT 3.5** The Three Amigos' View of Possible Outcomes for Getty Oil Stock  
*(Normally Distributed Getty Share Price With \$50 Mean)*



risk-free rate, share price, and volatility. But the key phrase is “most of the time,” because the amigos did not believe that the price of *every* call and *every* put was *always* in equilibrium.

They knew that the prices of options should not reflect market opinions about whether the price of a share should rise or fall, so their reasoning was that naive speculators would buy naked calls and often pay too much for them. For example, the friends believed that some speculators, just to get a piece of the action when they expected Getty's share price to rise, would pay as much as \$4 for a call option with an exercise price of \$40 and two months to expiration. Getty stock would have to go above \$44 for the call buyer to break even, and it would have to go above \$48 for the call buyers to make a 100% return. These frantic purchases created opportunities for covered option writers and dealers.

To understand why the amigos thought the prices of the December 40 calls and puts were biased, suppose for a moment that 100% of the speculators thought Getty stock was certain to rise, and therefore, they bid aggressively for calls. None of the speculators would want to buy puts. Why should they, when 100% of them thought the price of Getty would rise? By contrast, the dealers, as always, had no opinion and did not care whether Getty Oil stock rose or fell. They simply looked at the market prices of calls, puts, and common stock to see if they could engage in a profitable arbitrage. When call prices shot up, the dealers bought puts without caring whether the underlying stock was likely to go down, because after they complemented the long puts with a short call and share purchase, they were fully hedged and locked in a riskless profit.

Therefore, in the three amigos' minds, the price of puts was too high, and they justified their position the following way. If there were no way for anyone to arbitrage the puts and calls, the December 40 puts and December 35 puts would be selling for much less than \$2.50 and \$1.00, respectively, because no one expected Getty's share price to fall. The only reason the puts were at such high prices (and for that matter, the only reason the calls were at such low prices) was because of options dealers, who changed supply and demand by their arbitrage transactions.

## WHAT HAPPENED TO THE THREE AMIGOS' TRADE

The price of Getty Oil stock did rise. The three amigos were right, but the prediction was easy, and in their opinion, too many people had already figured out what was going to happen. As a result, the friends were able to execute only a small part of the trade they were contemplating.

In the cold light of the following morning, they decided that the trade was pretty good, but not great, and not worth that much risk, so the friends executed a smaller version of it, by selling immediately after the opening only 20 December puts with exercise price of \$40. A few minutes later, they tried to sell more, but before they could close the deal or purchase any puts with an exercise price of \$35 or \$30, the stock's price began to rise, and the bid price of the puts began to fall. An hour after the market opened, they lowered their limit price as they tried to sell 10 more puts, but the amigos could not get even \$2.25 for the puts. Because they were using a limit order, when it did not get filled, they withdrew it. By lunchtime, the puts were already trading at \$2.1875, and the day ended at that price. Two days later the stock had increased to \$42.75, and the December puts with an exercise price of \$40 had fallen to \$1.50. At that point, the three amigos decided to close their positions.

Bill was the one who initiated the decision to take the profit, but the other two agreed immediately. Bill said, "A buck in three days is good enough, guys. We can look at Getty Oil again and see what we want to do next, but let's take this profit that's sitting on the table while it's available." They bought back the 20 puts they had sold, making a profit of \$100 per put, or \$2,000 in total, which they considered to be a good result considering that it was low risk, they had only tied up about \$40,000 of their margin account, and the whole operation had only taken three days.

So, overall, how did this profit differ from what the three amigos were expecting? Initially, the friends had an eight-week investment horizon, but they decided to close out their position in just three days. Nevertheless, the percentage return on their three-day deal amounted to 5% (i.e., \$2,000 earned on a \$40,000 investment), which is an annualized (arithmetic) rate of return equal to 608% (i.e.,  $5\% \times 365/3$ ).<sup>3</sup>

## CONCLUSION

The three amigos did not always make profits, but their track record was so impressive that their trading strategy deserves to be investigated for its strengths and weaknesses. Until they moved to different parts of the United States and were unable to meet, these friends made large and consistent profits. Were the profits a fluke? Were they due to the fact that the three

<sup>3</sup>The rate of return was even higher if you consider that the margin account earned interest (albeit a relatively low money market rate). As well, if the compound annual rate of return were used as the measure, the three amigos' earned 37,747% (i.e.,  $(1.05)^{365/3} - 1 = 377.47 = 37,747\%$ )!

amigos were trading in the 1980s? Are the markets of the twenty-first century too efficient for such profits to be earned? The purpose of this chapter was not to suggest a trading strategy, but rather to open a debate.

For anyone contemplating trying this strategy, the strong suggestion is *beware*. The risks that the three amigos took were managed closely, and the amounts they wagered were small relative to their financial means. As well, keep in mind that very few of the three amigos' trading suggestions ever got to the implementation stage. In general, for every 10 to 20 ideas, only about one was executed—and, in some weeks, none. To be as objective as possible, their rule was to do their analysis before buying, and then try not to raise their objective when a trade was going favorably. Jimmy often said, "After you've bought, you can't think. Your objectivity goes all to hell."

It is also important to remember that when a trade went against the three amigos, they usually closed it out quickly. Jimmy often said, "A losing trade rarely turns into a winner. It just keeps getting worse. Take the loss and move on." When the markets were in turmoil, and the three amigos were not sure what to do, they restrained themselves and waited until they were more confident what their next move should be. At times like that, Jimmy asked the others rhetorically, "Is tomorrow a holiday? Are they going to close the markets for a long vacation? Is today the only time we can trade?"

Finally, remember that the three amigos were betting that the financial markets were inefficient. Such a bet is a bit fatalistic, because however correct they might be in the short run, they were sure to be wrong (and they knew it) in the long run. The fact is, there is no sure-fire way to "beat the market"—especially over an extended period of time. In the long run, markets tend to be pretty efficient, and the best you can hope for is to do your research, understand pricing relationships, and, perhaps, sneak in for a small piece of the market, as the three amigos did, before prices reach their normal state of equilibrium.

## REVIEW QUESTIONS

1. During their discussion, the three amigos considered increasing dramatically the size of the trade from 20 puts to 50 puts to 100 puts. Why did they not take very seriously the idea of selling "naked" puts (i.e., simply selling 20, 50, or 100 unprotected puts at the exercise price of \$40)?
2. Calculate the three amigos' proceeds from selling the December 40 puts on 10,000 shares.

3. Suppose the three amigos bought the December 35 puts to hedge their short put position on 10,000 shares at \$40 per share. Calculate their exposure on each share and their overall dollar exposure, if the share price fell below \$35 to \$32.
  - a. Calculate the share price at which the three amigos would break even.
  - b. Diagram the complete profit and loss profile facing the three amigos.
4. Suppose the three amigos bought the December 30 puts to hedge their short put position on 10,000 shares at \$40 per share. Calculate their exposure on each share and their overall dollar exposure if the share price fell below \$30 to \$19.
5. Given the following information, use put-call parity to determine the price of a put with a \$40 strike price.

Factors in Put-Call Parity Formula	Price/Rate
Call with \$40 strike price	\$3
Share	\$40
Risk free interest (annual)	8%

- a. Suppose the price of a call rose to \$4. Use put-call parity to determine the new price of the put.
- b. Suppose the price of a put was \$1.00. Explain how a dealer could arbitrage to earn riskless profits, and calculate her gains.

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