

Chapter 1

My Near-Death Experience

By the time I saw the Pepsi truck, it was too late. I remember turning my shoulder toward the truck's big radiator, feeling absolute terror seconds before it barreled into me, going at least 35 to 40 miles per hour. It hurled me 15 to 20 feet into the chilly, early-autumn air.¹

My dad saw it all unfold in his combine's rearview mirror and was sure I had just been killed. Who wouldn't? It had to be one of the most horrifying moments of his life—and mine.

I was nine years old at the time, and I loved working with my dad on our farm near Bagley, Iowa. We grew corn and soybeans and raised hogs and occasionally cattle. On this Friday morning, October 20, 1967, I wasn't in school because all students in our small town had been given a holiday for the high school homecoming celebrations. I was a budding sports fanatic and could hardly contain my excitement about the upcoming night of small-town football. I was also anticipating attending the Iowa State vs. Missouri Big 8 football game with my family the next day in Ames, which would become an annual outing. I was a very loyal Cyclone football fan in those days despite their losing ways (and they would lose to Missouri on that Saturday, 23 to 7).

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As it happened this Friday morning, something went wrong with the combine we used to harvest corn and soybeans, so my dad drove it into town for service. I tagged along as he drove the tiny (by today's standards) four-row combine harvester to the Allis-Chalmers dealership in Bagley. We had been farming for a little over a year, and it was one of my mom and dad's first major equipment purchases. I was the King of the Road during the drive between our farm and town along that stretch of blacktop, but once we reached the dealership and my dad started talking to the mechanics, I headed to the grain elevator next door.

A group of retired farmers, sitting in folding chairs, were lined up outside in front of the elevator on this crisp autumn morning. For small-town men like these, the elevator was the Cheers bar, where everyone knew their name. They came to drink coffee, swap stories, and complain about the weather and grain prices.

I was so enthralled by the goings-on of the elevator that I hadn't been paying attention to my dad. So, when he pulled the combine from the Allis-Chalmers dealership, I was sure he was leaving without me. As I learned later, he planned to drive the short distance to another part of the dealership. I assumed he had forgotten me, so I took off in a flash.

The road in front of the grain elevator, perpendicular to Main Street, was Highway 141. Without looking, I sprinted across the two-lane highway—directly into the path of the oncoming Pepsi delivery truck. The poor driver had no chance to stop. He must have aged decades in those few seconds as his big truck slammed full speed into my scrawny body, sending me flying like a football through the uprights.

The old farmers sitting in front of the elevator were witness to it all, sipping coffee one moment and slack-jawed the next as the truck smashed into the Irwin boy. Later, they told me I cartwheeled through the air, almost as high as the power lines.

I catapulted and skidded over one hundred feet. I'm well aware of the rough distance because when I came to my senses, I was shocked to be facing Chuck Leber's house. The approximate distance between

the elevator and Leber's place was about half a block. My face ached and was severely scraped, a painful clue I didn't cover the entire distance through the air. After I saw the truck's radiator, I woke up moments later, disoriented and lying beside the curb, gazing at Leber's house.

My dad leaped out of his combine and sprinted toward me. Later in life, he confided he was certain he'd find me dead and was stunned to discover I was conscious once he reached my side.

The closest hospital was about twenty miles away in Jefferson, Iowa, but there was no ambulance service in Bagley in 1967. However, plenty of locals helped, including Fred Hunter, the father of my best friend, Jack. The Hunters ran a small grocery store a couple of blocks away on Main Street, and Fred had some first-aid training from his time in the Marines during World War II. He placed me on an ironing board—their makeshift stretcher—and loaded me into his 1960s wood-paneled station wagon (seriously, just like the one in the National Lampoon movie *Family Vacation*).

With my dad riding shotgun, Fred drove as fast as that station wagon would go—possibly pegging the speedometer at 120 miles per hour. I was lucid but in shock. I still remember looking out the window, thinking the telephone poles were flying by at light speed. While I never lost consciousness during the drive, I can't remember any pain. I recall, though, my dad trying to keep me calm while I chatted more than usual—a lifelong trait that served me well as it kept me conscious.

Our family physician, Dr. Thompson, was waiting when we reached the hospital. Getting inside was somewhat of a blur, but I remember laying on the cold X-ray table and the nurses cutting off my treasured green overalls. Those green overalls were my pride and joy—my official uniform on the farm. They showed I was part of a team, and I was proud of what they signified. So, I was devastated when the nurses sliced them apart.

While this was all happening, my mom and younger sister, Jan, were in the nearby town of Yale at the hair salon before the big trip to the Iowa State football game. My younger sister vividly remembers

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Mom getting a call about my accident—a parent’s worst nightmare. The ladies at the salon brought Mom a cup of coffee, trying to console her. Mom’s hands were shaking so hard that the scalding liquid spilled all over her arm, but it didn’t faze her. She was in such a state of shock that she couldn’t react. I can only imagine what was going through her mind as they left for Jefferson to find out whether I was dead or alive.

It was a miracle I survived and an even bigger one that I was relatively unscathed. Well, almost. I broke my right leg in four places, had a slight tear in my liver, a mild concussion, and a minor cut on my chin requiring four stitches. That scar still taunts me today, reminding me how badly my body should have shattered.

How does a young boy get hit by a delivery truck going at least 35 to 40 miles per hour, get thrown over a hundred feet, and not sustain severe brain damage or paralysis? It was a one-in-a-million survival story, comparable to someone falling from a ten-story window and surviving.

I must have been spared by a guardian angel on direct assignment from God. There is no other explanation for how I escaped with minimal damage, not to mention how I later survived a string of other disasters on the farm. I kept my guardian angel extremely busy through college.

The first twenty-four hours after the accident, everyone was worried about me, but I was much better after vomiting a massive amount of fluids. This reaction was not unusual after the trauma I experienced and was even a good sign. As for the delivery truck driver, he was beside himself, as you might expect, and he visited me in the hospital. Those old farmers in front of the Bagley elevator told me I scared them half to death. One was a fellow named Em Whitecotton, and from that point on, whenever he’d see me, he’d shout, “Be careful crossing the road, sonny!”

Something like getting hit by a truck stays with you, and to this day, I have an unconscious twinge of fear whenever walking across a busy highway. Also, I have always wondered: How in the world did my black horn-rimmed glasses survive the accident, and who found them?

I still think of the surreal experience of getting a cast from my toes

to my hip. I had to stay perfectly still as they wrapped my right leg with the plaster-soaked strips. Although I was brave in the aftermath of the accident, I became increasingly afraid of hurting my leg while it was in this cast. Once, while trying to get used to the crutches, I tripped and fell. After my mom dashed over and was about to help me to my feet, my dad shouted, “Stop!”

I’ll never forget the expression on his face when he looked at me and said, “You’ve got to get up by yourself. You’ve got to do this, Scott.”

Tears welled, and I started sniffing, but my dad wasn’t going to give in. He was tough that way. So, although feeling sorry for myself, I struggled to a standing position, with my parents urging me on. My dad was firm—but he was also right. I wore that cast for six months, but I learned to deal with it and to rise when I fell.

Over the years, I’ve thought about the irony of almost dying near the grain elevator because it was one of the places where I felt most alive. My love for the agricultural markets began at the elevator. I breathed in the atmosphere—the farmers going on and on about the weather, prices, and the latest crop report from the U.S. Department of Agriculture (USDA).

Most of all, I loved the elevator’s magical back room connected to an equally mystical place—Chicago. The beating heart of the room was the ticker machine—a box with a large roll of yellow paper, spitting out market prices and news stories to the rhythmic *clack clack clack*. I still use a picture of this kind of ticker machine in my lectures to college students explaining commodity markets. I also remember the grain elevator’s chalkboard, which would display current market values for corn and soybeans. Those prices inevitably triggered many complaints from farmers, who threw around phrases laced with “words I wouldn’t want in a book,” as my dad used to say.

What I thought of as “the elevator” was a glorified scale house operated by a manager. Farmers would drive their trucks or their tractors and wagons, loaded with grain, onto the scale, get weighed, and receive scale tickets. Then they’d unload their grain at the dumping

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station and weigh the empty vehicles to determine the weight of the grain just delivered.

This circular journey was repeated over and over. Unlike me, not many kids my age were as fascinated with the grain elevator, but I found this world a breath of fresh air (literally!) compared to scooping manure or feeding pigs. I'd shoot the breeze with the old men for a few minutes, making me feel a lot taller. Of course, part of the fascination was due to my dad's influence. My father managed grain elevators in Oklahoma and another region of Iowa before farming in Bagley. Because of this, he paid more attention to the markets than most farmers, and I caught the bug from him. I was a market nerd from a young age.

Another magical and formative place for me was the dining room table at my Grandfather George and Grandmother Lurene Irwin's house on Sundays. We farmed with my dad's parents, and our farmhouse was only a few miles away from them.

My grandparents lived on what, to this day, we call the "home place." On Sundays after church, we gathered around their enormous table to share one big, raucous meal. We were a clamorous clan, with parents, grandparents, uncles, and aunts voicing opinions at high decibels. As my wife, Kim, likes to say, "The Irwins are an opinionated bunch that likes to argue." That's my family in a nutshell.

The Irwins were also an educated bunch. Everyone but my grandfather had college degrees, and several had master's and doctoral degrees, which was uncommon in rural Iowa at the time. We covered the political spectrum, with my Grandmother Lurene being a dyed-in-the-wool Roosevelt New Deal liberal. My dad and his father were free-market men—fairly traditional, middle-of-the-road, Main-Street Republicans—with one significant exception. They endorsed federal price and income supports for farmers.

My aunts and uncles generally backed my Grandmother Lurene in political arguments, and almost everyone joined. There was only one requirement: Argue as well and as loudly as you could manage. My two sisters weren't as attracted to the boisterous debating, but I was

entranced. And when I became a high schooler, I dared to engage in the action, which was a bit like stepping off a high dive.

Even when I went to dirt-track sprint car races during hot summer nights with my gearhead father and his friends, the topic during the long car rides across Iowa was almost always the markets. Will corn prices go up this summer? Should I be selling soybeans now? Should I wait to sell? What's going to happen with the weather?

The constant topic of weather and markets was their psychological way of coping with the enormous uncertainty of farming. As I listened to my dad and his farming friends banter on those long car rides, I noticed they would sometimes veer into a darker world of conspiracy theories.

Iowa farmers often seemed to suspect someone was out to screw them over. And those "someones" generally fell into three categories—the big grain companies, the government (mainly in the form of the USDA), and the commodity futures market traders on the floors of the Chicago Board of Trade (CBOT) and the Chicago Mercantile Exchange (CME).

Of those three, this book will concentrate on futures traders, often given the much-abused label of "speculators." For nearly 150 years, speculators have been vilified as villains because they trade contracts for commodities that they have had no hand in producing, storing, transporting, or processing.

To the average person, they're just glorified gamblers, playing fast and loose with the product of other people's labor. As a result, they have been favorite targets for farmers, politicians, the press, and others who do not understand the speculator's crucial role in the futures market system. They may not produce anything physical that can be weighed, but their value can still be measured—and *has* been. I have spent nearly forty years as an agricultural economist at The Ohio State University and the University of Illinois at Urbana-Champaign studying precisely this question.²

Many in the media and political world tarnish speculators whenever commodity prices go high...and when prices go low. They're convinced the price variations must be due to sinister manipulations

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by traders rather than normal market vicissitudes. Attacks on the market happen with such regularity that I call it the Anti-Speculation Cycle. The critics do not understand that speculators make markets *less* volatile, not more, but I'll get to that in later chapters.

To understand the vital role speculators play, you first need to know how commodity futures markets work. For most people, futures markets remain a mystery. For many, the only thing they know is the outdated image of traders tightly packed in a pit, screaming numbers and waving pencils and pads of paper. It's much easier to understand the cash market, where you sell grain at the day's cash price. But how do futures markets work, in which you buy commodity contracts at a certain price for future delivery? And why are speculators so important to their smooth operation? These are questions I plan to answer.

Futures markets are not mere curiosities, for they sit at the very heart of our economy. They function as a critical nerve center for the market economy and are important to *everyone*. Futures markets set the prices for some of the most important commodities in our global economy: energy commodities such as crude oil, gasoline, and diesel; crops such as corn, soybeans, and wheat; metals such as copper, gold, silver, and platinum; and on and on. In 2021 alone, 62.6 billion futures contracts were traded, according to the Futures Industry Association. Of these, 2.7 billion were energy futures contracts, and 2.8 billion were agricultural contracts, with a total face value amounting to trillions of dollars in a single year.³

Trillions of dollars in trading for markets such as crude oil and corn... such staggering figures are the exclamation point on any argument about the importance of commodity futures markets.

My goal is to shed light on the market's mystery in a way that is understandable to the average person. By the end of this personal and professional journey, I will have lifted the veil on the origins of commodity futures markets; the process of setting prices for corn, soybeans, crude oil, and other commodities; the use of hedging to reduce risk; and the move from trading pits to electronic trading.

Most importantly, in *Back to the Futures*, I will defend the vital role that speculators play by taking you into the heart of the global contro-

versy about speculation in futures markets that erupted in 2007-08—a controversy in which I became embroiled. I testified before Congress and in front of an international body based in Paris, during which I had running battles with everyone from the Bubble Boy to academic rivals. I was even targeted with a hit piece by *The New York Times*.

But I was prepared. I had been living and breathing the air of agriculture since I was a boy in Bagley, Iowa. I knew what it was like to get blindsided, both figuratively and literally, by my near-death experience at nine years of age.

In this book, I'll be doing plenty of time-traveling, *Back to the Future* style—although without the help of a DeLorean, plutonium, or a flux capacitor. Managing risk through hedging and speculation is a common thread through these chapters, so it's fitting that many of the experiences from my past have to do with risk—nearly being killed by a runaway steer, rotary hoe, tornado, and out-of-control snowmobiles and dirt bikes. These formative experiences on the farm connect directly to my life today as a researcher in commodities, futures trading, and biofuels.

To shed light on these mysterious markets, let's begin at ground zero with the commodity itself. What makes an item a commodity?

A commodity, such as corn, is mass-produced, but so are non-commodities, such as smartphones. What distinguishes the two is a million-dollar word—fungible. Fungibility means one unit of a commodity is roughly the same as another. A bushel of corn in Illinois is essentially the same as another in South Dakota or China. As long as they meet some basic grade characteristics, they are swappable. A smartphone is not fungible or swappable because one brand can vary dramatically from another, as any Apple aficionado will remind you (constantly). You cannot swap out a smartphone like you can with a bushel of grain.

Commodities also tend to be global in scope and typically are raw materials, such as crude oil, the world's biggest commodity market. The scale of the crude oil market is truly mind-boggling, as the world typically uses about 100 million barrels every day.⁴ This amounts to a trillion gallons of crude oil per year. Corn is also a massive market,

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with a lot of it used around the world for animal feed, fuel, and as an industrial ingredient in all sorts of food products.

Because a bushel of corn in China is essentially the same as one in Illinois, the prices will be roughly the same worldwide—although the price is adjusted for the cost of moving it from one place to another. Athletic shoes, in contrast, are not commodities because they are not created equal, and different shoes draw different prices. Putting the Nike swoosh on a shoe will carry a very different price than one without it.

In other words, a commodity is not branded. Slap a Nike swoosh on the side of a bushel of grain, and you're not going to increase the price. (By the way, a bushel is a measure of dry volume equal to 32 quarts.)

Over the years, there have been many attempts to create branding among agricultural products to garner higher prices. We have Angus-certified beef, but it doesn't command much premium. You can choose between Tyson or Perdue-brand chicken, but they sell for nearly the same price. Chickens are commodities; cars are not. I wish I could swap out my Highlander for a Jaguar, but it's not going to happen. Cars are not fungible.

Because commodity markets are so large, they involve middle operators who transform the commodities in *space*, *time*, or *form* to be used by consumers. Transforming a commodity in space means moving it from one place to another. The farmer moves grain to the local elevator, which carries it to the larger terminal elevators along the Mississippi River. Then the terminal elevators move the grain to companies that use the commodity to make food, fuel, or other products.

Second, middle operators transform commodities in *form*. If I own a large hog farm in China, I want to purchase soybeans in the form of soybean meal, which I feed to my pigs. Therefore, the soybeans have to be crushed and processed into meal after they're shipped from the United States. Similarly, we don't want to fill our cars with crude oil at the pump; we want gasoline, so the crude oil is processed into gasoline. The commodity is changed in form.

But what about transforming commodities in time? This is the

most complicated of the three concepts, and this is where futures contracts and speculators come in—something I'll be exploring in the next chapter.

As will soon become clear, speculators are the ultimate risk-takers, and it's fair to say I know about risk. Growing up, I was best friends with the wildest risk-taker west of the Mississippi.

His name was Jack Hunter, and it's a miracle either one of us is still alive.