

# the tortoise & the hare



## | The Power of Markets

In 1958, economist Leonard Read published an essay entitled “I, Pencil: My Family Tree as Told to Leonard E. Read.” The essay, narrated from the point of view of a pencil, describes the “complex combination of miracles” necessary to create and bring to market the commonplace writing tool that has been used for generations. The narrator argues that no single individual possesses enough ability or know-how to create a pencil on their own. Rather, the mundane pencil—and the ability to purchase it for a “trifling” sum—is the result of an extraordinary process driven by the knowledge of market participants and the power of market prices.

### **The Importance of Price**

Upon observing a pencil, it is tempting to think a single individual could easily make one. After all, it is made up of common items such as wood, paint, graphite, metal, and a rubber eraser. By delving deeper into how these seemingly ordinary components are produced, however, we begin to understand the extraordinary backstory of their synthesis. Take the wood as an example: To produce wood requires a saw, to make the saw requires steel, to make steel requires iron. That iron must be mined, smelted, and shaped.

Market prices are the unifying force that enables millions of people to coordinate their actions efficiently.

A truck, train, or boat is needed to transport the wood from the forest to a factory where numerous machines convert it into lumber. The lumber is then transported to another factory where more machines assemble the pencil. Each of the components mentioned above and each step in the process have similarly complex backstories. All require materials that are sourced from far-flung locations, and countless processes are involved in refining them. While the multitude of inputs and processes necessary to create a pencil is impressive, even more impressive are the coordinated actions required by millions of people around the world to bring everything together. There is the direct involvement of farmers, loggers, miners, factory workers, and the providers of capital. There is also the indirect involvement of millions of others—the makers of rails, railroad cars, ships, and so on. Market prices are the unifying force that enables these millions of people to coordinate their actions efficiently.

# The Power of Markets

Workers with specific knowledge about their costs, constraints, and efforts use market prices to leverage the knowledge of others to decide how to direct their own resources and make a living. Consider the farmer, the logger, and the price of a tree. The farmer will have a deep understanding of the costs, constraints, and efforts required to grow trees. To increase profit, the farmer will seek out the highest price when selling trees to a logger. After purchasing the trees, the logger will convert them to wood and sell that wood to a factory. The logger understands the costs, constraints, and efforts required to do this, so to increase profit, the logger seeks to pay the lowest price possible when buying trees from the farmer. When the farmer and the logger agree to transact, the agreed upon price reflects their combined knowledge of the costs and constraints of both growing and harvesting trees. That knowledge allows them to decide how to efficiently allocate their resources in seeking a profit. Ultimately, it is price that enables this coordination. On a much larger scale, price formation is facilitated by competition between the many farmers that sell trees to loggers and between the many loggers that buy trees

from farmers. This market price of trees is observable and can be used by others in the production chain (e.g., the lumber factory mentioned above) to inform how much they can expect to pay for wood and to plan how to allocate their resources accordingly.

## The Power of Financial Markets

There is a corollary that can be drawn between this narrative about the market for goods and the financial markets. Generally, markets do a remarkable job of allocating resources, and financial markets allocate a specific resource: financial capital. Financial markets are also made up of millions of participants, and these participants voluntarily agree to buy and sell securities all over the world based upon their own needs and desires. Each day, millions of trades take place, and the vast collective knowledge of all of these participants is pooled together to set security prices. Exhibit 1 shows the staggering magnitude of participation in the world equity markets on an average day in 2015.

### Exhibit 1: Embrace Market Pricing

World Equity Trading in 2015

	Number of Trades	Dollar Volume
Daily Average	98.6 million	\$447.3 billion

*In US dollars. Global electronic order book (largest 60 exchanges).  
Source: World Federation of Exchanges.*

Any individual trying to outguess the market is competing against the extraordinary collective wisdom of all of these buyers and sellers. Viewed through the lens of Read's allegory, attempting to outguess the market is like trying to create a pencil from scratch rather than going to the store and reaping the fruits of others' willingly supplied labor. In the end, trying to outguess the market is incredibly difficult and expensive, and over the long run, the result will almost

assuredly be inferior when compared to a market-based approach. Professor Kenneth French has been quoted as saying, "The market is smarter than we are and no matter how smart we get, the market will always be smarter than we are." One doesn't have to look far for data that supports this. Exhibit 2 shows that only 17% of US equity mutual funds have survived and outperformed their benchmarks over the past 15 years.

# The Power of Markets

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## Exhibit 2: Don't try to outguess the market

US Equity Mutual Fund Performance



15 Years

2,758 funds at beginning

*Beginning sample includes funds as of the beginning of the 15-year period ending December 31, 2015. Past performance is no guarantee of future results.*

*Source: Dimensional Fund Advisors, "The US Mutual Fund Landscape."*

*See disclosures for more information*

### Conclusion

The beauty of Leonard Read's story is that it provides a glimpse of the incredibly complex tapestry of markets and how prices are formed, what types of information they contain, and how they are used. The story makes it clear that no single individual possesses enough ability or know-how to create a pencil on their own but rather that the pencil's miraculous production is the result of the collective input and effort of countless motivated human beings. In the end, the power of markets benefits all of us

The market allows us to exchange the time we require to earn money for a few milliseconds of each person's time involved in making a pencil. For an investor, we believe the lesson here is that instead of fighting the market, one should pursue an investment strategy that efficiently and effectively harnesses the extraordinary collective power of market prices. That is, an investment strategy that uses market prices and the information they contain in its design and day-to-day management. In doing so, an investor has access to the rewards that financial markets make available to providers of capital.

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