

## Chapter 9

# Do Firms Need to Maximize for the Model to Fit?

Realized positive profits, not *maximum* profits, are the mark of success and viability. It does not matter through what process of reasoning or motivation such success was achieved. The fact of its accomplishment is sufficient. This is the criterion by which the economic system selects survivors: those who realize *positive* profits are the survivors; those who suffer losses disappear.

— Armen Alchian (1950), “Uncertainty, Evolution, and Economic Theory.”

Imagine the following situation. You and many other people in a city—let’s say Chicago—want to leave Chicago by car. You have many routes to choose from. But, it turns out, of all the routes you and others might choose to drive, only one route has gas stations. What will happen? People who don’t use that one route will not get very far. The only drivers who will go far are those who choose the route that has gas stations.

This is obvious, right? Why bother discussing it? Because in a justly famous article, “Uncertainty, Evolution, and Economic Theory,” in the 1950 *Journal of Political Economy*, Armen Alchian uses the driving-from-Chicago example to help explain why economists can predict the behaviour of people who run firms, even if those people don’t have perfect information. Of course, firms *don’t* have perfect information and so Alchian’s reasoning is important.

### **The controversy and Alchian’s resolution**

The setting for Alchian’s article, his first major submission accepted by a top journal, was a heated debate in economics journals in the 1940s about whether

it was reasonable to assume that firms maximize profits. Defenders of that assumption argued that firms acted as if they maximized profits. Some critics of the assumption argued that the fact of uncertainty meant that they *couldn't* maximize profits. Alchian took a different perspective from that of either the defenders or the critics. He did not argue that firms act as if they maximize profits. And he agreed with one critic, Gerhard Tintner, that when firms' managers cannot have certainty, the very concept of profit maximization is suspect.

But, argued Alchian, that does not mean that we can't predict the behaviour of firms. Akin to the evolution that Charles Darwin studied, when firms "evolve," those that make what, in retrospect, are good decisions, even if the decisions are random, will do better and be more likely to survive than those that make bad decisions.

That's where his driving-from-Chicago example comes in. Imagine that everyone who leaves Chicago randomly chooses a route. An economist predicts that those who chose the route with gas stations will get far and those who chose gas-station-free routes won't. The economist's prediction will be a good one.

Now back to firms. Imagine that the supply of labour falls, so that wage rates rise. In economic theory, efficient organizations would respond to the increase in wage rates by substituting, at the margin, capital inputs, such as machinery and equipment, for labour. So the result of the higher wages would be less employment of labour.<sup>23</sup>

Now imagine that no organization initially responds in this textbook manner, but that some firms are operating, for whatever reason, with a lower labour-to-capital ratio than other firms. Assume that all firms start with the same costs. Now, as a consequence of the increase in wage rates, the firms with a lower ratio of labour to capital will have lower costs than the other firms. This, in turn, means that the former will have a higher probability of survival in the competitive process. The end result is that surviving firms will operate with lower ratios of labour to capital much as would have been the case had managers *deliberately* substituted capital for labour as textbook descriptions of efficient management behaviour would prescribe.

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<sup>23</sup> That, by the way, is why so many economists over the decades have been critical of increases in the minimum wage. They want people who want to work to have jobs.

Alchian makes clear that he does not believe that people make decisions randomly, even if they are not fully informed about the circumstances surrounding their decisions or unable to know in advance the consequences of their decisions. To some extent, decision-makers will be guided by “successful” behaviour that they see around them and will adopt that behaviour to the extent they can. New behaviours that produce more efficient or preferable outcomes than existing behaviours will also be imitated, a process that Alchian calls “adaptive behaviour to innovation.”

But his point is that even if firm managers made decisions randomly, the competitive process would weed out firms that made retrospectively bad decisions and that the firms that made retrospectively good decisions would be more likely to survive.

The result is important. An economist need not assume that firms maximize profits. Economists are able to predict behaviour of the firms that survive without the strong assumption of profit maximization.

## **Behavioural economics**

Decades after Alchian’s original insight, a school of thought in economics identified as behavioural economics came into the spotlight. The unifying theme of the literature on behavioural economics is that people’s reasoning is imperfect, susceptible to error, and amenable to corrective measures implemented by regulators or others in authority. A notable example was the regulation implemented by New York City to ban large soda beverages (drinks over 16 ounces) on grounds that sugary drinks contributed to obesity and the associated health risks.<sup>24</sup>

Two behavioural economists have won the Nobel Prize in Economic Sciences: Israeli psychologist and economist Daniel Kahneman, who shared the Prize in 2002, and University of Chicago economist Richard Thaler, who won it in 2017. Much of the research done by Kahneman, Thaler, and others focused on identifying psychological biases and cognitive limitations that lead managers and consumers to make decisions that are inconsistent with improving their material or non-material welfare.

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<sup>24</sup> In a 2014 decision, the New York Court of Appeals ruled that the city’s ban exceeded the scope of its regulatory authority.

Thaler offers the example of a person who buys a pair of shoes only to realize after wearing them that they are uncomfortable. A rational decision in this circumstance would be to get rid of the shoes, perhaps by selling them to a used clothing store or donating them to a thrift shop. Thaler argues, however, that most people leave their ill-fitting shoes in their closet rather than acknowledge that they made a bad purchase. Economists refer to this bias as a sunk cost fallacy. Kahneman's frequent co-author and Stanford Professor, Amos Tversky, gives another example. He documents through experimentation that subjects who lose a theater ticket that they purchased for, say \$10, on the way to the theater are unlikely to buy a replacement ticket; however, if they lose \$10 in cash on their way to the theater to buy a ticket, they are still likely to buy a ticket. Tversky reasoned that in the first case, people saw themselves as paying \$20 for a theater ticket that should have cost \$10, whereas they did not have that bias when they lost \$10 in cash. Behavioural economists refer to this phenomenon as putting money into mental silos when it is more rational to think of money as being fungible, i.e., useful for any financial transaction.<sup>25</sup>

Alchian never addressed the arguments of behavioural economists directly. But his framework addresses the main concern raised by their arguments, namely, that conventional economic models that assume rational maximizing decision-making have limited predictive content and are poor guides to public policy. Indeed, in a sense, Alchian anticipated modern behavioural economics by acknowledging that most managers of firms do not and, indeed, cannot operate as pure profit-maximizers given the uncertainty and incomplete information characterizing the business environment. However, as discussed above, Alchian argued persuasively that predictions from economic models that assume rational decision-making would be reasonably predictive over time. The reason is that the for-profit environment selects for success. Firms whose managers implement strategies that lead to higher profits, whether the strategies were chosen intentionally or by accident, do better in the marketplace, while firms that make worse decisions do worse and may even disappear.

In his book *Misbehaving: The Making of Behavioral Economics*, Thaler gives an example that illustrates the point directly above. He and Cade Massey,

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<sup>25</sup> These and many other so-called anomalies in logic are discussed in Thaler (2016b). Tversky tragically died in 1996 at the relatively low age of 59.

a fellow behaviouralist, did extensive work to estimate the value of top draft picks in the National Football League draft relative to the value of lower draft picks. They concluded that the best strategy for a team owner is to trade away first-round picks for additional picks later in the draft and to lend picks in the current year for better picks in the next year. They had a chance to consult with Washington Redskins (now the Washington Football Team) owner Daniel Snyder, who seemed to follow what they were saying. Whatever Snyder's understanding, he didn't follow their advice. Snyder traded up to get quarterback Robert Griffin III. In retrospect, with all RG3's injuries, it turned out to be a very bad choice. But Thaler's and Massey's point doesn't depend on retrospective thinking: their powerful evidence said in advance that this would almost certainly be a bad choice. The result: the Washington Redskins had a string of losing seasons. They didn't disappear, as some failing firms do, but they did do badly.

While Alchian focused his argument on firms, his basic logic applies to consumer behaviour as well. People who persist in indulging inefficient biases will not necessarily "perish," but will likely enjoy a lower material and non-material standard of living than their peers who, by accident or design, make "better" decisions. Some of the former will be motivated to imitate the latter's behaviours much as individual inefficient businesses will try to imitate the initiatives of innovative and prospering firms.

Also relevant, and consistent with the UCLA School's belief in the effectiveness of private markets to address problems that arise from imperfect information and transactions costs, organizations will emerge to help individuals make more efficient decisions as consumers and investors because it will be profitable to do so.<sup>26</sup> A contemporary example is Zillow, an online real estate company. A particular bias that behavioural economists identify, one that accords with the "endowment effect," is homeowners' propensity to value their homes above the amounts that potential buyers are willing to pay for those homes. Zillow provides free home estimates that are created through sophisticated Artificial Intelligence algorithms. The credibility of Zillow's estimates is strengthened by a complementary service offered by

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<sup>26</sup> For an extensive discussion of how private sector organizations can help address the decision-making biases of individuals as discussed in the behavioural economics literature, see Manne and Zywicki (2014).

Zillow: Zillow is also a buyer of homes at offer prices that are only slightly below their published estimates of the market values of those homes. This is a powerful example of how private sector organizations can improve the efficiency of individual decision-making.

Another example relates to the bias of over-optimism. Behavioural economists have noted that individual investors tend to make consistent mistakes in choosing stocks. In particular, they tend to believe that they are better than average investors or they entrust their money to investment managers who they believe are better than average investors. But theory and evidence document that the overwhelming majority of investors, including professional investors, can earn higher returns *only* by accepting greater risks. Hence, spending time and money trying to be a better than the average investor makes active investing a losing proposition. It is no surprise that an alternative method of investing emerged and has, over time, become the dominant way that individuals invest in stocks: index funds. Index funds are low-cost investment vehicles that hold large and diversified portfolios of stocks. Managers of index funds don't attempt to "outperform" other investors by trying to pick winners and avoid losers. Instead, they try to duplicate the average return of a large portfolio of stocks, while minimizing the transactions costs associated with ongoing management of the portfolio.

It must be acknowledged that behavioural economics has had an impact on public policy. Regulators have implemented policies to "nudge" people to make what the regulators believe are better decisions. Notably, the British government established a Nudge Unit in 2010 to encourage people to alter their behaviour across a variety of activities. Perhaps the most prominent application of the nudge principle was the introduction of automatic enrollment for pensions in public- and private-sector organizations. Rather than having people opt into voluntary pension plans, "nudgers" designed the choice architecture so that people were automatically enrolled unless they chose to opt out. The government's motivation for the nudge was the belief of policy-makers that individuals were not saving enough money for retirement. This specific nudge was subsequently adopted by many public and private sector organizations in other countries.

While Alchian's article was written long before the Nudge Unit was established, his article challenges the British government's implicit rejection of the premise that efficient behaviour emerges as an evolutionary market

process. While government regulators may believe that most individuals are too short-sighted to adequately save for retirement, many people do not want to live in penurious conditions in their old age and will learn the value of saving from the experiences of older family members and friends, especially those who failed to save. Indeed, a recent study of US households reports that the overwhelming number of those households save at least as much as they need to maintain their pre-retirement standard of living (see Zywicki, 2017).

Neither Alchian nor other members of the UCLA School would expect regulators to be free of biases or to have better information about how individuals should promote their well-being than the individuals themselves. Indeed, Alchian's article effectively argues that government actions are unlikely to promote more "efficient" conduct than would otherwise take place precisely because, unlike private sector participants, bureaucracies do not face selection pressures to abandon failed policies and adopt good ones.