

ALERT JUDGMENT: FORD'S ENTREPRENEURIAL FIVE DOLLAR DAY

NATHANIEL SMITH*

JEL CLASSIFICATION: J33, L26, M52

ABSTRACT: This paper provides evidence for the explanatory power of the theory of entrepreneurship through analysis of one of the most widely publicized acts of American entrepreneurship: Ford's five dollar day. Economists have debated the proper classification and interpretation of the Ford Motor Company's wage policy extensively. The majority categorize it as an efficiency wage policy, though others argue for rent sharing or the high-wage doctrine. This article argues that Ford acted as an alert, innovative entrepreneur who exercised judgment under uncertainty when he developed the 1914 labor policy and Ford Sociological Department. Viewing the events of 1913 and 1914 at Ford through this lens reveals that Ford's personnel innovations were not merely efficiency wages, rent sharing, or motivated by the high-wage doctrine. Rather, Ford's actions are best understood as those of a profit-seeking entrepreneur.

*Nathaniel Smith (nsmith39@gmu.edu) is a PhD fellow in the F. A. Hayek Program for Advanced Study in Philosophy, Politics, and Economics at George Mason University.

I have benefited from thoughtful comments on previous versions of this paper by Christopher Coyne, Per Bylund, and my Mercatus fellows cohort. I have also benefited from feedback from two anonymous reviewers. All remaining errors are mine. I gratefully acknowledge generous support from the Mercatus Center and the Institute for Humane Studies.



"This division of labor, from which so many advantages are derived, is not originally the effect of any human wisdom, which foresees and intends that general opulence to which it gives occasion. It is the necessary, though very slow and gradual consequence of a certain propensity in human nature which has in view no such extensive utility; the propensity to truck, barter, and exchange one thing for another."

Adam Smith (1776, 25)

"The uneasiness that impels a man to act is caused by a dissatisfaction with expected future conditions as they would probably develop if nothing were done to alter them."

Mises ([1949] 1998, 100)

At the beginning of the twentieth century the number of wage employees in Detroit's automobile industry grew radically, from 2,304 in 1904 to sixty thousand in 1914 (CPC 1946). At the Ford Motor Company (FMC) from 1910 to 1913 the number of employees grew fivefold, from 2,595 to 13,198 (Nevins 1954, 513). Detroit's demand for labor was so intense that a worker could quit his job in the morning and have a new one by noon (Levin 1927, 75). In the early 1910s, Detroit companies suffered all-time high labor turnover rates. For example, Ford's labor turnover in 1913 was 370 percent and the Packard Motor Car Company's was 200 percent (Klug 1989, 54).

The FMC responded to these conditions with a novel labor policy that instantly garnered national attention. It more than doubled its minimum daily income from \$2.34 to \$5.00 *and* shortened the workday from nine to eight hours. But, contrary to common popular belief, this was not an increase in Ford's minimum wages. In fact, this was what Ford called a profit-sharing system that provided an increase in pay contingent upon the Sociological Department's approval. The daily minimum wage remained \$2.34, and after meeting certain protocols employees became eligible to receive an additional \$2.66 in profit sharing (Lee 1916).

Economists have discussed the rationale behind Ford's profit-sharing system at length. The majority categorize it as an efficiency wage policy, while others maintain that the policy is best explained by either rent sharing or the high-wage doctrine. This article explores the weaknesses in these prior explanations and

presents a theory of an alert and judgmental entrepreneur, utilizing that theory to present a robust understanding of the five dollar day.

Daniel Raff and Lawrence Summers (1987) use the five dollar day to evaluate the relevance of efficiency wage (EW) theories to employment determination. They find that EWs are relevant due to the queues that resulted for Ford jobs, the increases in productivity, and increases in profits. Although evidence is given to demonstrate that these three responses all did in fact occur, for multiple reasons the usefulness of this classification of the FMC's 1914 labor policy is questionable.

First, let us consider the queues at Ford. As Raff and Summers (1987) note, because of the 1913–14 recession, queues were already growing prior to the five dollar day. Moreover, as will be discussed below, the Employer Association of Detroit was very influential in the way workers moved from one firm to the next, ultimately forcing migrants to live in Detroit for six months prior to working at Ford. Second, isolating the cause of increased productivity is fraught with difficulty due to its timing. Raff and Summers (1987, S76) note that John R. Lee¹ wrote that wages were raised by 105 percent but labor costs grew by only 35 percent. Using these data, they estimated multiple regressions to isolate the impact of the five dollar day, concluding that the productivity increment was between 40 and 70 percent (Raff and Summers 1987, S77). However, any assessment of the output per worker before and after the 1914 personnel innovation is highly suspect due to coincidental changes in the production process and labor remuneration schemes. In the winter of 1913–14 Ford's production process was radically improved through the installation of the moving chassis assembly line in December 1913 and the mechanized belt in February 1914 (Lacey 1986, 120). These changes alone cut man minutes per car from 728 to ninety-three (Lacey 1986, 120). Also, as Raff and Summers (1987, S76) detail, chassis production costs from December 1913 to December 1914 reveal an increase in labor costs of 43 percent and a decrease in materials cost of 19 percent. So, not only did labor expenses (on chassis) not grow by the full 105 percent, but materials costs fell, further confounding the ability to determine the cause of

¹ John R. Lee was the Ford Motor Company's Head of Personnel. He created the Sociological Department in 1914.

increased efficiency. Third, did Ford's profits grow? This is indeed the case. Ford's real profits doubled from 1912 to 1913, grew by 15 percent from 1913 to 1914, and rose by 21 percent from 1914 to 1915 (Raff and Summers 1987, S75). Moreover, \$11.2 million in dividends were distributed to shareholders for 1914.

Further, the five dollar day was not simply an efficiency wage scheme to deal with high turnover but encompassed much more. Prior to the profit-sharing scheme, in October 1913, the head of personnel, John R. Lee, instituted five changes to remedy turnover issues. First, he gave all employees a 15 percent raise. Second, he dealt with poor leadership and promotion schemes. Lee reduced the scale of wage rates from sixty-nine to eight (Levin 1927). Furthermore, he created a clear path to promotion and raises void of subjectivity and favoritism. Third, days were shortened from ten to nine hours. Fourth, foremen could no longer fire their workers; they could now only remove employees from their departments (Meyer 1981). Fifth, the FMC created a savings and loan bank to provide short-term loans and develop the "saving habit" among its employees (Meyer 1981, 107). These produced initial signs of success and by the end of October the FMC's monthly absences averaged only 10 percent, down from a high of 48 percent in 1912 (Meyer 1981; Nevins 1954). The decline continued at the same pace through October 1914, when the rate was 2.5 percent (Abell 1915, 37). As the absentee rates had already significantly declined prior to the January 1914 five dollar system, and continued to do so at the same rate, it is *unlikely* that the absentee rates were the *sole* reason for such a radical change only two months later.

In a later paper Raff (1988) analyzes four competing theories: efficiency wages, adverse selection, moral hazard, and rent sharing; he concludes that rent sharing has the most explanatory power. This conclusion is founded primarily on the strike led by the Industrial Workers of the World at the Studebaker Corporation on June 17, 1913 (Raff 1988). In what was the first major strike in automobile history, most of the plant's thirty-five hundred workers walked out (Klug 1989). Since the Industrial Workers of the World only had two thousand members in Detroit, this was a significant accomplishment (Nevins 1954). Is it possible that the success of the strike, increasing immigration, and nationwide increases in union membership drove Henry Ford to his innovative compensation scheme?

On the contrary, this event revealed the strong position of Detroit industrialists relative to workers. At the time the Employers' Association of Detroit (EAD) secured Detroit employers' right to employ on an individual basis and prevented collective bargaining. The EAD contained the Studebaker strike and bolstered the power of employers over wage earners. As detailed by Klug (1989), the EAD's Labor Bureau initiated a three-pronged response. First, the Detroit Police Department was enlisted to arrest agitators.² Second, strikers that wished to return to work were forced to register at the Labor Bureau to track union membership and work history. Third, other EAD member firms closed their employment offices to prevent Industrial Workers of the World members from infiltrating other companies, forcing them to return to Studebaker. Thus, the EAD contained the strike to Studebaker, neutralized the ability of workers to switch companies, and reinforced employers' dominance over unions in Detroit.

Selgin and Taylor (1999) present a third interpretation of the five dollar day. They argue the five dollar day played a significant role in 1920s arguments for the high-wage doctrine and the minimum wage (Selgin and Taylor 1999).³ Indeed, Henry Ford stated, "Country-wide high wages spells country-wide prosperity" (Ford and Crowther 1925, 124–25). However, advocates of the minimum wage took Ford's statement out of context. Ford concludes that this is "provided, however, the higher wages are paid for by higher production. Paying high wages and lowering production is starting down the incline toward dull business" (Ford and Crowther 1925, 125). Clearly, he did not support minimum wage *laws*; Ford opined, "No rules or laws will affect the changes. But enlightened self-interest will" (Ford and Crowther 1925). In addition, as Ford stated, high wages will only produce prosperity to the extent that those wages are driven by higher production. So, although Ford believed a well-paid workforce was essential to a prosperous society, he did not see government fiat as a manner of bringing that about.

² For example, the Jewish Historical Society of Michigan tells the story of Industrial Workers of the World activist Matilda Rabinowitz's arrest on April 28, 1913, for agitating outside the Highland Park Plant (Jewish Historical Society of Michigan n.d.).

³ The high-wage doctrine states that by increasing the purchasing power of employees, society will be made better off due to an increase in aggregate demand.

This article presents an alternate interpretation of Ford's personnel policy through the application of an entrepreneurial theory rooted in Kirzner's (1973) alert entrepreneur, Schumpeterian innovation (Schumpeter 2010), and Knight's (1921) entrepreneurial judgment (see Foss and Klein [2005, 2012] for a contemporary elaboration). The theory integrates innovation and judgment with alertness, thereby expanding the conception of the alert entrepreneur. The entrepreneurial theory's applicability to Ford's personnel policy is demonstrated by showing Ford's alertness to an untapped opportunity for profit in the Detroit labor market. When Ford acted upon this opportunity, he touched off market-wide changes that both created new opportunities in the labor market and destroyed outdated systems and firms that were unable to adjust. Yet Ford's actions were not foreordained to succeed. The future is uncertain; Ford had to judge his plan's profitability prior to its realization. Thus, Henry Ford exercised entrepreneurial judgment when initiating his revolutionary labor policy in January 1914.

The article proceeds as follows: first, a theory of entrepreneurship is presented, and then the theory is applied to the actions of the Ford Motor Company, beginning with the initial adjustments made by John R. Lee and then turning to Henry Ford's profit-sharing innovation.

THEORY OF ENTREPRENEURSHIP

Entrepreneurship is inherent in all human action (Mises [1949] 1998), and it is the entrepreneur's restless desire to earn profits that drives the market process (Mises [1949] 1998, 256). The entrepreneurial engine has three cylinders: alertness, innovation, and judgment.

Kirzner's (1973) theory of pure entrepreneurship, advanced in *Competition and Entrepreneurship*, introduces the concept of entrepreneurial *alertness*. The entrepreneur is alert to a discrepancy between the bid and ask prices, and through arbitrage negotiates a better deal for both demander and supplier, earning pure profit for himself. Alertness, though, is not merely the recognition of the market's lack of coordination, but also necessitates acting in a manner that improves the allocation of resources (Kirzner 1973, 11). For example, the entrepreneur recognizes potential gains from trade between

the current holders of a good and those that desire it more. Once aware of this inefficient allocation, the entrepreneur facilitates the exchange and gains a profit. This action reallocates the good to its highest-valued use and the market price adjusts accordingly. Indeed, it is the entrepreneur that imbues the market with the capability to learn how to better allocate resources (Kirzner 1973, 11).

Kirznerian alertness in the above sense reflects the pure entrepreneurship that takes place in his 1973 single-period model. However, Kirzner (1982) introduced a multiperiod model expanding the applicability of alertness to more than simple acts of arbitrage. In a multiperiod model the entrepreneur is not motivated by arbitrage profits, but speculative profits that arise out of a lack of coordination across time. Consider the entrepreneur who combines factors in a novel manner in anticipation of profit. In this case, the entrepreneur does not simply recognize the misallocation of a good, but that the factors necessary for producing the good are undervalued in their current, period 1 configuration. The entrepreneur therefore purchases the necessary factors, repurposes them, and sells the final product for a profit in period 2.⁴ This entrepreneur's alertness lies in the ability to perceive a more highly valued *combination* of factors in an uncertain future. Again, entrepreneurial action facilitates the market process, allocating resources to more highly valued uses. However, in this case alertness coordinates across time and space, and not just within a given market.

The entrepreneur does not only reallocate existing resources to more highly valued uses. Kirzner (2015) argues that alertness encompasses

⁴ Since in the multiperiod model the entrepreneur buys the factors prior to repurposing them, I add a brief note on entrepreneurship and ownership. Salerno (2008) argues that only property owners can bear an uncertain future and that all property ownership exposes one to uncertainty. Thus, following Salerno (2008), a Misesian entrepreneur, who by definition bears uncertainty (Mises [1949] 1998, 254), must be a resource owner. Foss and Klein (2010) also view entrepreneurship as necessitating ownership but take a different approach than Salerno. They argue that alertness necessitates judgmental decision-making, which requires ownership of capital. In Kirzner's (1973, 38–41) original discussion of entrepreneurial profits he states that it is possible to be both entrepreneur and capitalist (39) as well as entrepreneur and resource owner (40). However, Kirzner places the locus of entrepreneurship on the *decision* to embark on the venture (40), rather than on ownership of the factors. Thus, for Kirzner, whether the entrepreneur is an owner is secondary and the recognition of a profit opportunity primary.

the recognition of completely novel production processes or goods. Indeed, the entrepreneur could "recognize" an efficiency-improving solution in his imagination. As Kirzner explains:

In regard to opportunities to be created by future conditions, of course, "alertness" refers not to the ability to see what exists, but to the necessarily speculative ability to "see" into the future. In particular, such metaphorical "alertness" may consist in the vision to *create* something in the future. (Kirzner 2015, 143; emphasis in original)

As will be seen, the clarification that alertness is not limited to already existing methods and resources but includes the use of the entrepreneur's imagination to capitalize on market inefficiencies through envisioning a wholly new situation is important when comparing the Kirznerian and Schumpeterian entrepreneur. For example, Steve Jobs created the iPad in response to an inefficiency in the computer market through imagining a yet unknown solution to the customers' desire for small, portable computers. In his imagination he was alert to the possibility of efficiency gains unrecognized by others.

In contrast to Kirzner's alert entrepreneur, who pushes an economy toward equilibrium, Schumpeter's ([1934] 1961, [1942] 2010) entrepreneur disturbs an economy in equilibrium, where all known opportunities have been fully exploited (Kirzner 1999). Venkataraman (1997, 121) has associated these two types with his fundamental premises of entrepreneurship: weak (Kirznerian) and strong (Schumpeterian). The weak form exploits ubiquitous market inefficiencies to enhance wealth. The strong form advances knowledge and/or technology that leads to creative destruction (Schumpeter [1934] 1961). However, technological change does not necessarily lead to the strong form (Shane 2000). An entrepreneur must first discover, be alert to, the potential for profit in the change. This "discovery" occurs due to the entrepreneur's prior knowledge (Shane 2000).

In his *General Theory of Entrepreneurship* Shane (2003) clarifies further the distinction between Kirznerian and Schumpeterian opportunities. Kirznerian opportunities arise from differential use of information that leads to shortages and surpluses (Kirzner 1997). The Schumpeterian innovator develops a new method, product,

or service in response to an exogenous change (e.g., technological, political, macroeconomic, or social). This recombination increases society's potential output. The Schumpeterian process of creative destruction occurs when the entrepreneurial leader "revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one" (Schumpeter [1942] 2010, 73; emphasis in original). Thus, businesses that cannot adapt to the new innovations are "destroyed," while those that do adapt create new jobs, production methods, products, *et cetera*. Thus, there is a distinction between the discovery and mitigation of temporal and spatial inefficiencies of the Kirznerian entrepreneur and the new, innovative products and production methods of the Schumpeterian entrepreneur (Shane and Venkataraman 2000, 219).

However, this distinction fades away when the Kirznerian pure entrepreneur is removed from 1973 Kirznerian model and placed in an uncertain, open-ended, multiperiod world where creativity and boldness are unavoidably a result of alertness (Kirzner 1999; Foss and Klein 2010, 153–54). Alertness here causes creativity and boldness, whether in arbitrage, a new combination of factors, or a novel product, because once the actor "sees" an opportunity for profit she is driven to act in manner that will allow her to capture that profit. Further, Kirzner (1999) argues that Schumpeterian innovation is a form of alertness. For example, Kirzner suggests that the destruction of the horse-drawn carriage industry by the automobile was not strictly a case of an innovator upsetting an otherwise fully coordinated economy (Kirzner 1999, 14–16). Henry Ford, and others, acted to remove perceived inefficiency in transportation and capture profits. Certainly, to understand the economic forces at work in society we must, following Kirzner, recognize that "creative destruction" reallocates resources in a more efficient manner (that is, resources are shifted to higher-valued uses). Though at the time the horse-and-buggy combination was perceived to be the most efficient use of resources, it in fact was not. When viewed dynamically, society is always in a state of disequilibrium, that is, one in which there is potential to earn profit through arbitrage, new combinations of existing resources, or the invention of novel goods and services.

Failure to recognize that entrepreneurs respond to the market's *current* inability to alleviate uneasiness is failure to recognize how economies develop. Entrepreneurship, at its core, is the driving force

of the market. Bylund (2020) identifies two types of entrepreneurial market influence: the promoter and nonpromoter. The promoter makes the "great adjustments" through speculative action that move and determine the overall structure of the market, while the nonpromoter functions within the current structure of the market. Bylund (2020) shows that the promoter's speculative action is necessary to expand the division of labor through novel production processes. As will be shown below, this was what Henry Ford did when he introduced his novel personnel department and payment structure. This action ultimately changed the structure of unskilled labor compensation in the automobile industry. Ford's alertness to the opportunity to radically change the status quo pushed the automobile economy to a more efficient allocation of resources. Whether his action was speculative innovation or arbitrage does not change the necessity of alertness to, that is, recognition of, an improved manner of satisfying the consumer. The arbitrageur is alert to existing resource allocation that others do not perceive, and the speculative innovator, through creativity and imagination, is alert to that which does not yet exist. However, both must brave an uncertain future to reap the benefit of their alertness.

For Nicholas J. Foss and Peter G. Klein, bearing the risk of an uncertain future is the *raison d'être* of the entrepreneur (Klein 2008; Foss and Klein 2012). The entrepreneur as an actor who conducts his enterprise under uncertainty first appears in Cantillon's *An Essay on Economic Theory* (Cantillon 2010, 73–77). The concept of the entrepreneur as one who produces in advance at fixed rates in hopes of selling for a future profit was further developed in Knight (1921).⁵

Frank H. Knight classifies three types of probability: (1) a priori, which is "on the same logical plane as the propositions of mathematics," (2) statistical, which rests on empirical classification of instances, and (3) estimates which have no valid basis for any kind of classification (Knight 1921, 224–25). A priori and statistical probability are risk and estimates that do not fit into those categories

⁵ This is also another way to describe alertness. For example, the farmer, alert to the demand for his produce in the town, believes he can combine his labor and land to produce food for less than others will value it. The addition of uncertainty does not diminish the necessity of recognizing the disparity in prices in order to act entrepreneurially. It does, however, reinforce the possibility that the entrepreneur will generate a loss rather than a profit.

are uncertainty. The entrepreneur wrestles with uncertainty, attempting through routinization, generalization, and classification to transform it into risk. Uncertainty applies to most business decisions, since each instance is entirely unique. Although generalized business decisions can be categorized, the primary concern here is the individual's estimate of her personal ability to succeed. That is, the entrepreneur must judge the value of the profit opportunity to which she is alert. She estimates the value and validity of her alertness in a similar form to a probability judgment, but this is not a true a priori probability, but is only an assessment of her own likelihood of success.

Knight (1921, 235) states that these judgments have two elements: (1) the quality of one's judgment and (2) truly accidental factors. Those individuals that excel in these judgments and have confidence in their ability to make them specialize in entrepreneurship. To deal with the uncertainty of production and future demand, the entrepreneur seeks to improve her knowledge of and control over the future (Knight 1921, 260). In essence, the entrepreneur attempts to turn uncertainty into risk through routines and business structure. However, an element of uncertainty will always remain, and following Mises ([1949] 1998, 288), the reward (profit) of the entrepreneur is a result of her ability to better anticipate and act upon uncertain future events. Thus, the entrepreneurial function consists in the employment of the factors of production to meet the future uncertain needs of potential, nonguaranteed customers. The quality of the entrepreneur's judgment regarding what combinations of resources will be most valued in an uncertain future is what determines her success and level of profit.

In accord with Kirznerian alertness, the entrepreneur who exercises judgment attempts to capitalize on a perceived profit opportunity through a unique and novel allocation of resources. But the entrepreneur's alertness makes her aware of a profit opportunity that may occur at any point in the production period: strict arbitrage of consumer goods, repurposing of inputs, or a novel good or production process intended to revolutionize the status quo. Moreover, the alert entrepreneur does not merely perceive a better future but also acts to bring it into existence. To act requires the entrepreneur to wrestle with an uncertain future. She must judge herself as capable of meeting the desires of unknown future

customers. In sum, the real-world entrepreneur exercises alertness, judgment, and at times innovation.

FORD'S LABOR INNOVATIONS INTERPRETED

Lee's Adjustments

In 1913 Henry Ford tasked John R. Lee with finding a solution to the FMC's turnover problem. Ford was alert to the labor inefficiency in his plant; his solution was to put Lee in charge, because he judged Lee as capable of delivering a solution. Lee surveyed other Detroit manufacturers to see if there were already solutions in the industry but found none. He then interviewed Ford employees to learn why so many quit or simply chose not to come to work regularly. Ford employees told Lee their hours were too long, wages too low, housing conditions poor, the path to promotion was unclear, and the shop was dangerous and unsanitary.

Lee's initial solution in October 1913 (see page 3 and 4 for details) addressed their concerns head on and demonstrates that what workers desired was an improved working environment, not just higher wages. True, there was a wage increase across the board, but this was just one aspect of the initial adjustment. All of the changes, not just the pecuniary ones, were aimed at capturing profits by reducing the stream of resources going toward the constant labor turnover. Indeed, the FMC sought to adjust the whole experience of the worker, addressing housing conditions and a poor work environment as well as monetary concerns.

Lee's personnel plan clearly required judgment. Most importantly, Lee was allocating the firm's assets in the context of uncertainty and hoping to benefit from an improvement. Though he conducted a survey of both Ford employees and Detroit manufacturers at large, Lee did not know what the future held for the labor market with certainty. Also, though the line workers at Ford told him their complaints, it is possible that they were not entirely honest; alternatively, there remained the potential for Lee's solutions to not address the workers' concerns. Moreover, though he could have generalized his actions to better estimate the "probability" of success, this would not have been strict empirical probability, but Lee's estimate of his ability to successfully determine the best way to

handle current and future labor concerns (Knight 1921). Therefore, he was exercising judgment as he recombined the heterogeneous assets of the FMC in hopes of increasing profits and improving his standing within the company.

And Lee's actions, at least initially, increased the FMC's profit margin. As a result of his adjustments the absentee rate fell from a peak of 48 percent monthly in 1912 to 10 percent monthly at the end of the first month of the program (Nevins 1957). In March 1913 roughly 70 percent of the FMC turnover was classified as "five-day men" (Meyer 1981). These were simply workers who were absent for five days and then officially designated as having quit. Thus, the radical reduction in absenteeism also impacted the turnover and necessity to retool employees. At the time a conservative estimate of what it cost to break in a new employee was thirty-five dollars and the extreme estimate was one hundred dollars (Klug 1989). Thus, Lee's adjustments increased the FMC's profit as these costs were significantly reduced. Lee was alert to a solution.

Framing these decisions with the entrepreneurial lens brings to light that there was more to what was going on in the automotive labor market than Ford offering a more competitive wage. It was not simply a mathematical calculation; Lee was not able to say, "If I increase wages by so much, then my turnover rate will fall, and our profits will grow." In fact, Lee had to contend with the very real problem of discovering why Ford's employees were dissatisfied. This takes more than a mathematical calculation. As his solution, and the five dollar day, reveal, there was more to be dealt with than low wages. It is true that the bottom line is always what the entrepreneur is looking to improve, but as Ford and Lee demonstrated, this is done by considering the whole worker, not just his wage.

The Five Dollar Day

In Lee's 1916 reflection on the success of the profit-sharing program he stated that the goal of the plan was not to advertise nor to give their employees a mere living, but to give them a life worthwhile (Lee 1916). To do this, Ford provided a money premium on better living as an incentive for his workers to choose a "better" lifestyle (Ford and Crowther 1925). To implement the plan, Lee was appointed head

of the newly created Ford Sociological Department. The department established standards of living necessary for workers to qualify for profit sharing. Requirements were laid out in several categories: age, sex, character, habits and behavior, home conditions, marital status, number of dependents, wage rating, whether an employee was English speaking, and length of service (Levin 1927). FMC employees' base wage remained \$2.34 per day, but now they could earn \$2.66 per day more by living in a manner worthy of a "Ford man." Initially, only 67 percent of the workers qualified, but by 1916, 90 percent were qualified (Lee 1916). Because more was required of the employee to earn profit-sharing status, the classification of the five dollar day as an efficiency wage loses plausibility.

The five dollar day is best understood as an entrepreneurial act. Although many aspects of the plan (e.g., opening English schools for employees and profit sharing) were not truly innovative in the Schumpeterian sense, the plan in its entirety was. The economic structure of the Detroit automobile labor market was transformed from within. Most notably, the eight-hour workday reverberated through the automobile industry.⁶ By 1920 more than half of Detroit's manufacturers had switched to the eight-hour day (Nevins 1954). Automobile manufacturing plants that did not, or could not, switch to three eight-hour shifts were at a great disadvantage. This radical change in labor policy not only added four hours of production, but also improved worker morale through alleviation of discomfort. To compete with the Ford Motor Company's output, companies needed the extra four hours of production; to maintain a satisfied workforce, they had to match the FMC's shorter hours.

Moreover, by 1928 wages were seventy-five cents per hour in the automobile industry compared to roughly fifty-five cents per hour in the rest of manufacturing (Rae 1965, 127). When ranked against all US manufacturers' total wages paid yearly, the motor vehicle industry was ranked seventh in 1914; by 1925 they were number one and were first or second for the next twelve years (FTC 1939, 9). Ford's improved compensation package, though

⁶ Yet again, here is a central aspect of the plan that did not *directly* impact wages but instead was focused on improving the overall work experience. Therefore, the plan, in its entirety, could not be summed up as paying efficiency wages, nor could it be described as rent sharing.

not instantaneously, changed the way automobile companies compensated their employees. Ford's changes during this time, both in the areas of personnel and production, created the potential for mass production and limited the ability of smaller independent companies to compete. In 1909 the American automobile industry peaked, with 272 manufactures; by 1941 there were only nine (Klepper 2002, 651). Furthermore, by 1929 Ford and General Motors Company produced 66 percent of all motor vehicles, and after 1931, the FMC, General Motors, and the Chrysler Corporation produced more than 80 percent of the market's output (FTC 1939, 27). Thus, Ford's five dollar day was both creative and destructive, creating mass production and destroying small shop production.

Consistent with Foss and Klein's (2005) Cantillon-Knight-Mises conception of entrepreneurship, Ford's decision to enter into a profit-sharing scheme with his employees required entrepreneurial judgment. First, as the great majority of accounts attest, this decision was made by the primary residual claimant, Henry Ford (Nevins 1954, 533).⁷ Second, the Detroit labor market in the first quarter of the twentieth century was radically uncertain. From 1900 to 1920 Detroit's population increased 350 percent, causing the labor market to be in a constant state of flux (Klug 1989). In 1900 it would have been hard to predict Detroit's subsequent rise. It takes judgment to anticipate changes and proactively adjust the use of a firm's assets to continually earn profits. Ford did this first by hiring Lee, and subsequently through the five dollar day.

Ford estimated the amount of profits he would share in 1914 from his 1913 profits.⁸ In a January 1914 budget meeting for the coming year, Ford calculated that the program would cost the FMC \$10 million; that is, they would share \$10 million of their yet unearned 1914 profits with their unskilled laborers (Nevins 1954, 533).⁹ Though

⁷ Though in retrospect some would claim the idea originated with James Couzens, there is little to this argument (Nevins 1954, 533).

⁸ Cantillon's description of the entrepreneur as one who pays a fixed price today for an uncertain return in the future is glimpsed here as Ford and his executives plan the purchase of factors to secure an uncertain future profit.

⁹ This number is only a best-guess estimate. The number of employees at Ford would change throughout the year, and thus this number would rise or fall with the size of the workforce and how many employees qualified to participate in the

Ford could estimate future earnings based on prior years, the unprecedented nature of profit sharing and the impact of the moving assembly line (installed December 1913) and the mechanized belt (after February 1914) rendered all estimates mere guesses.¹⁰

As mentioned above, the attempt to generalize business decisions, and determine probable outcomes, cannot remove all uncertainty. Following Knight (1921, 226), the specific decision being made is far too unique for computation through either a priori or empirical calculation. Moreover, even when rough estimates are plausible, it is the entrepreneur's estimate of the value of his own judgment that receives the greater weight (Knight 1921, 228). Ford was alert to the solution to Detroit's constantly changing labor market of the early 1900s: the creation of the Sociological Department, higher wages, and an improved work environment, while other Detroit automobile manufacturers were not.

Turnover was a primary issue that the FMC sought to overcome through the profit-sharing system. As Ford recounted, prior to the plan turnover was a huge problem, but since enacting the five dollar day it no longer bothered them (Ford and Crowther 1925). Throughout 1913 Ford hired more than fifty thousand employees to fill roughly thirteen thousand positions (Meyer 1981). In other words, Ford hired roughly 3.84 people to fill one position, or every quarter he hired a completely new workforce. Two years later the FMC had over eighteen thousand positions and only hired seven thousand, five thousand of which were new positions created to meet expanding capacity (Lee 1916). The FMC cut their turnover rate from 370 percent in 1913 to 54 percent in 1914 to 16 percent in 1915 (Slichter 1921, 244). This was remarkably better than the rest of the Detroit automobile manufacturing industry, whose turnover rate in 1913 ranged from 100 to 200 percent (Meyer 1981). By 1916 there was little industrywide improvement. A survey of fifty-seven Detroit plants revealed an average turnover rate of 252 percent (Klug 1989). Ultimately, Ford concluded, "paying good

profit-sharing scheme. The actual cost of the program in 1914 was \$5,838,929.80 (Nevins 1954, 548); clearly \$10 million was an estimate of an uncertain future that not even Ford could predict.

¹⁰ As Ford has said, "...just as we have no idea how high wages will go, we also have no idea how low prices will go..." (Ford and Crowther 1925, 147)

wages is the most profitable way of doing business” (Ford and Crowther 1925, 130).

This, of course, is evidence for an efficiency wage theory of the program. However, efficiency wages require paying your employees more than the market-clearing wage (i.e., equilibrium wage). In 1912, the *Detroit Free Press* reported on the *shortage* of unskilled labor in Detroit, noting that “[t]here is one cloud on the horizon, however, which is proving more or less of a nightmare to some of the larger manufacturers. This is the question of labor, principally of the unskilled variety” (qtd. in Meyer 1981, 76). If there was indeed a shortage of labor, raising wages moved the market toward equilibrium, not above it to an efficiency wage. Still, if one denies that sending recruiters to Ellis Island to bring laborers directly to Detroit is evidence of a labor shortage, there is another compelling reason to prefer the entrepreneurial approach.

To arrive at an equilibrium wage requires static analysis with many variables locked in the cage of *ceteris paribus*. The environment of Detroit in the early twentieth century was extremely dynamic (like economies everywhere and always) and therefore is best understood with a dynamic theory. The entrepreneurial approach to the puzzle of Ford’s wages is more effective, because it assumes a market in disequilibrium. In 1914 there may have been a general wage of roughly two dollars per day in Detroit (FMC already paid more than that), but to analyze this as the equilibrium wage is to miss the dynamic reality of Detroit and the FMC in 1914. The number of wage employees in Detroit’s automobile industry grew radically, from 2,304 in 1904 to sixty thousand in 1914 (City of Detroit, Michigan, Plan Commission 1946). More specifically, from 1910 to 1913 the number of FMC employees grew fivefold, from 2,595 to 13,198 (Nevins 1954, 513). Even if there was a semblance of an equilibrium prior to 1910, clearly these radical changes altered it.

When Ford looked at the market for labor in Detroit and saw rampant turnover and growing miscommunication and safety issues, especially at the Highland Park plant, he saw an industry-wide misallocation of resources that could be exploited for profit. Based on the above figures of thirty-five to one-hundred dollars to retool a worker in 1913, turnover in that year cost Ford between \$1.82 million and \$5.2 million. Ford estimated that if they had not reduced turnover, the

number of hires with their much larger 1914 workforce would have risen from fifty-two thousand in 1913 to two hundred thousand in 1914 (Ford and Crowther 1925, 129). Thus, the cost of doing nothing could have been as high as \$20 million, twice the estimated cost of profit sharing. Clearly, running a business in this manner would have been inefficient and Ford's profit-sharing scheme was efficiency increasing, *ex ante* saving a potential \$10 million.

More significantly, the managers at Ford saw the growing multi-dimensional quality of the labor force as the largest problem. In 1900 Detroit was predominantly American and German, and those cultural traditions dominated the early Ford plant (Meyer 1981, 75). The northwestern European dominance changed dramatically over the next twenty years as immigrants from southern and eastern Europe began to fill the ranks of unskilled workers. Particularly relevant for our analysis is the "major wave from 1912–1914" of Finns, Greeks, Yugoslavians, Lithuanians, Russians, and Syrians that came to work in Detroit (Meyer 1981, 76). As a result, by late 1914 the FMC was 71 percent foreign, very non-English speaking, and from twenty-two different nations (see table 1 for specifics) (Meyer 1981, 77). An efficiency wage could not address the challenges inherent to a such diverse workforce. The FMC met this challenge with the entrepreneurial innovation of the Sociological Department and the profit-sharing system: more income in exchange for assimilation. The FMC did not simply raise wages above the current market wage; they attempted to create a better all-around working, indeed living, experience for their employees.

Table 1. FMC worker nationalities, November 1914

Nationality	Number	Percent
American	3,771	29.3
Polish	2,677	20.7
Russian	2,016	15.6
Romanian	750	5.8
Italian	690	5.3
Austro-Hungarian	657	5.1
German	606	4.7

Source: Meyer (1981, 77).

Again, this aspect of the plan is completely missed when considering only efficiency wages. One must take into consideration the full scope of Ford's plan to impact the turnover rate and simultaneously address communication issues on the plant floor. He completely changed the experience of his average worker to retain his workforce. Wages were merely one aspect of the plan. The Ford Motor Company also wanted their employees to live more fulfilling lives (Lee 1916). As the *New York Times* reported, Ford went so far as to say that \$5 a day men must not live in a tenement or crowded rooming house (*New York Times* 1914b). Ford's lawyers oversaw the purchase of new homes and rental units for those employees currently living in tenements or rooming houses. If workers did not comply within the given timeframe, then they would lose their profit-sharing status. Moreover, savings plans at the Highland Park State Bank were highly encouraged. Indeed, the *New York Times* reported that Ford employees had almost doubled their savings in the Highland Park State Bank, from \$3.8 million to \$6.3 million, over a three-month span (*New York Times* 1914a).

The Sociological Department sought to address growing safety concerns through the profit-sharing plan. As mentioned above, the FMC workforce was very diverse; thus, culture and language were not always shared by foreman and linemen.¹¹ Miscommunication led to a dangerous work environment, which included altercations and accidents (Bates 2012). In order to address this concern, the profit-sharing program required recipients of the higher wage to learn English at the Ford English School. In addition to teaching English, the school was intended to Americanize the employees through various cultural lessons. From 1915 to 1916 the FMC reported that sixteen thousand workers had graduated from the Ford English School. In 1914, 35.5 percent of Ford employees did not speak English; by 1917 only 11.7 percent did not (Hooker 1997).

Following Ford, other industrialists attempted to teach their workers English. Packard Motor, Dodge, and Studebaker all attempted to replicate Ford's English school but did not pay their workers to attend and so did not have the same level of success. For example, Packard Motor Company had roughly twelve

¹¹ Meyer (1981, 77) recounts the story of a German foreman who learned Polish so he could communicate with those under his supervision.

hundred foreign employees. At Packard only one-third of these enrolled in English classes, and even fewer regularly attended (Klug 1989). The Dodge Brothers Company had three thousand non-English-speaking workers out of ninety-four hundred and only 157 attended the English schools. Studebaker had twelve hundred non-English speaking workers out of sixty-eight hundred; only ninety-seven attended (Zunz 1982). These efforts throughout the automobile industry demonstrate the market's general need for such innovation. Ford judged that the cultural and language barrier hindered production and was alert to a solution that made his plant more productive and profitable. Ford, an alert entrepreneur, saw continued high turnover rates and gave his employees incentives, monetary and otherwise, to stop leaving the FMC. In so doing, he directed the market toward a more efficient allocation of labor.

CONCLUSION

The application of alert judgment to the labor policies at the Ford Motor Company demonstrates that the success of the five dollar day (the policies of the Sociological Department included) is not explained completely by efficiency wages nor rent sharing. The five dollar day was an entrepreneurial action. Conceptualizing it as efficiency wages or rent sharing is incorrect and prevents a rich understanding of the market process. Understood as alert judgment, Ford's actions reveal how the market process leads to improvements in an economy. Ford's alertness to a solution to Detroit's inefficient labor market and confidence in his ability to bear the cost of an uncertain future transformed the way automobile makers compensated their employees.

When the analyst interprets the five dollar day as a pure monetary incentive to reduce turnover, she misses the fact that it took an individual (Ford) risking his company's well-being to actualize the change. There was no way to determine with statistics exactly which wage would improve the labor situation at the FMC or in Detroit as a whole. She also cannot explain the inclusion of English lessons and lifestyle requirements using the efficiency wage framework. It took an alert entrepreneur exercising judgment to recognize and implement this multipronged solution. Similarly, for economies to develop, move resources to their most valued use, discover new

methods of production, and innovate in an uncertain world, individuals must exercise alert judgment.

REFERENCES

- Abell, Oliver J. 1915. "The Making of Men, Motor Cars, and Profits." *Iron Age* 95: 33–41.
- Bates, Beth T. 2012. *The Making of Black Detroit in the Age of Henry Ford*. Chapel Hill: University of North Carolina Press.
- Baumol, William J. 1968. "Entrepreneurship in Economic Theory." *American Economic Review* 58, no. 2: 64–71.
- Bylund, Per L. 2016. *The Problem of Production: A New Theory of the Firm*. New York: Routledge.
- . 2020. "Finding the Entrepreneur-Promoter: A Praxeological Inquiry." In "Entrepreneurship Special Issue," edited by Per L. Bylund. Special issue, *Quarterly Journal of Austrian Economics* 23, no. 3–4: 355–89.
- Cantillon, Richard. 2010. *An Essay on Economic Theory: An English Translation of Richard Cantillon's "Essai sur la Nature du Commerce en Général"*. Translated by Chantel Saucier. Edited by Mark Thornton. Auburn, Ala.: Ludwig von Mises Institute.
- (CPC) City Plan Commission, City of Detroit. 1946. *Master Plan Reports: The People of Detroit*. <https://babel.hathitrust.org/cgi/pt?id=mdp.39015071335189&view=1up&seq=4&skin=2021>
- Flink, James J. 1988. *The Automobile Age*. Cambridge: Massachusetts Institute of Technology Press.
- Ford, Henry, and Samuel Crowther. 1925. *My Life and Work*. Garden City, N.Y.: Doubleday, Page.
- Foss, Nicholas J., and Peter G. Klein. 2005. "Entrepreneurship and the Economic Theory of the Firm: Any Gains from Trade?" In vol. 2 of *Handbook of Entrepreneurship Research*, edited by Rajshree Agarwal, Sharon A. Alvarez, and Olav Sorenson, 55–80. Boston: Springer.
- . 2010. "Alertness, Action, and the Antecedents of Entrepreneurship." *Journal of Private Enterprise* 25, no. 2: 145–64.

- . 2012. *Organizing Entrepreneurial Judgment: A New Approach to the Firm*. Cambridge: Cambridge University Press.
- FTC (Federal Trade Commission). 1939. *Report on Motor Vehicle Industry*. Washington, D.C.: United States Government Printing Office.
- Hooker, Clarence. 1997. "Ford's Sociological Department and the Americanization Campaign and the Manufacture of Popular Culture among Assembly Line Workers c.1910–1917." *Journal of American Culture* 20, no. 1: 47–53.
- Kirzner, Israel M. 1973. *Competition and Entrepreneurship*. Chicago: University of Chicago Press.
- . 1982. "Uncertainty, Discovery and Human Action: A Study of the Entrepreneurial Profile in the Misesian System." In *Method, Process, and Austrian Economics: Essays in Honor of Ludwig von Mises*, edited by Israel M. Kirzner, 139–59. Lexington, Mass.: D. C. Heath.
- . 1997. "Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach." *Journal of Economic Literature* 35: 60–85.
- . 1999. "Creativity and/or Alertness: A Reconsideration of the Schumpeterian Entrepreneur." *Review of Austrian Economics* 11: 5–17.
- . 2009. "The Alert and Creative Entrepreneur: A Clarification." *Small Business Economics* 32: 145–52.
- . 2015. "Entrepreneurship, Economics, and Economists." In *Austrian Subjectivism and the Emergence of Entrepreneurship Theory*, edited by Peter J. Boettke and Frédéric Sautet, 139–50. Indianapolis, Ind.: Liberty Fund.
- Klein, Peter G. 2008. "Opportunity Discovery, Entrepreneurial Action, and Economic Organization." *Strategic Entrepreneurship Journal* 2: 175–90.
- Klepper, Steven. 2002. "The Capabilities of New Firms and the Evolution of the US Automobile Industry." *Industrial and Corporate Change* 11, no. 4: 645–66.
- Klug, Thomas. 1989. "Employers' Strategies in the Detroit Labor Market, 1900–1929." In *On the Line: Essays in the History of Auto Work*, edited by Stephen Meyer and Nelson Lichtenstein, 42–72. Urbana, Ill.: University of Illinois Press.
- Knight, Frank H. 1921. *Risk, Uncertainty, and Profit*. Boston: Houghton Mifflin.

- Lacey, Robert. 1986. *Ford: The Men and the Machine*. Boston: Little, Brown and Company.
- Lee, John R. 1916. "The So-Called Profit Sharing System in the Ford Plant." *The ANNALS of the American Academy of Political and Social Science* 65, no. 1: 297–310.
- Levin, Samuel M. 1927. "Ford Profit Sharing, 1914–1920." *Personnel Journal* [pre-1986] 6, no. 1: 75–86.
- Meyer, Stephen, III. 1981. *The Five Dollar Day: Labor Management and Social Control in the Ford Motor Company, 1908–1921*. Albany, N.Y.: State University of New York Press.
- Jewish Historical Society of Michigan. n.d. "Matilda Rabinowitz." Michigan Jewish History. Accessed May 12, 2021. <https://www.michjewish-history.org/mwwmd/2017/12/matilda-rabinowitz.html>.
- Mises, Ludwig von. (1949) 1998. *Human Action: A Treatise on Economics*. scholar's ed. Auburn, Ala.: Ludwig von Mises Institute.
- Nevins, Allan. 1954. *Ford: The Times, the Man, the Company*. New York: Scribner.
- New York Times*. 1914a. "Ford Employee's Wealth: Increase Bank Deposits by \$3,000,000 under Profit-Sharing Plan." July 11, 1914.
- . 1914b. "Squalid Homes Banned by Ford." Apr. 19, 1914.
- Rae, John B. 1965. *The American Automobile: A Brief History*. Chicago: University of Chicago Press.
- Raff, Daniel M. G. 1988. "Wage Determination and the Five-Dollar Day at Ford." *Journal of Economic History* 48, no. 2: 387–99.
- Raff, Daniel M. G., and Lawrence H. Summers. 1987. "Did Henry Ford Pay Efficiency Wages?" In "Part 2: The New Economics of Personnel." Supplement, *Journal of Labor Economics* 5, no. 4: S57–86.
- Salerno, Joseph T. 2008. "The Entrepreneur: Real and Imagined." *Quarterly Journal of Austrian Economics* 11: 188–207.
- Schumpeter, Joseph A. [1934] 1961. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. Cambridge, Mass.: Harvard University Press.

- . [1942] 2010. *Capitalism, Socialism and Democracy*. London: Routledge. ProQuest Ebook Central.
- Selgin, George, and Jason Taylor. 1999. "By Our Bootstraps: Origins and Effects of the High-Wage Doctrine and the Minimum Wage." *Journal of Labor Research* 20: 447–62.
- Shane, Scott. 2000. "Prior Knowledge and the Discovery of Entrepreneurial Opportunities." *Organization Science* 11, no. 4: 448–69.
- . 2003. *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Cheltenham, U.K.: Edward Elgar.
- Shane, Scott, and Sankaran Venkataraman. 2000. "The Promise of Entrepreneurship as a Field of Research." *Academy of Management Review* 25, no. 1: 217–26.
- Slichter, Sumner H. 1921. *Turnover of Factory Labor*. New York: D. Appleton.
- Ticknor, Thomas J. 1978. *Motor City: The Impact of the Automobile Industry upon Detroit, 1900–1975*. PhD diss., University of Michigan. ProQuest.
- Venkataraman, Sankaran. 1997. "The Distinctive Domain of Entrepreneurship Research." *Advances in Entrepreneurship, Firm Emergence and Growth* 3: 119–38.
- Watkins, Myron W. 1920. "The Labor Situation in Detroit." *Journal of Political Economy* 28, no. 10: 840–52.
- Yu, Tony Fu-Lai. 2001. "Entrepreneurial Alertness and Discovery." *Review of Austrian Economics* 14: 47–63.
- Zunz, Olivier. 1982. *The Changing Face of Inequality: Urbanization, Industrial Development, and Immigrants in Detroit, 1880–1920*. Chicago: University of Chicago Press.