

THE MARKET PROCESS: ENTREPRENEURSHIP, INTERVENTION,
AND THE ROLE OF THE STATE

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DEDICATION

This is dedicated to my loving wife Liesl Ann and my two wonderful children, Olivia, and Charlie.

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LIST OF ABBREVIATIONS

American Alliance of Lumber Consumers	AALC
American Consumers for Affordable Homes	ACAH
Antidumping Duties.....	AD
Billion Board Feet.....	bbf
Canada-US Free Trade Agreement.....	FTA
Coalition for Fair Lumber Imports	CFLI
Common Agricultural Policy.....	CAP
Countervailing Duty.....	CVD
Dynamics of Intervention	DOI
Efficiency Wage.....	EW
Employers' Association of Detroit	EAD
European Economic Community.....	EEC
European Union	EU
Ford Motor Company	FMC
Free Trade Lumber Council.....	FTLC
General Agreement on Tariffs and Trade	GATT
Institute of American Poultry Industries.....	IAPI
International Trade Development Community	ITDC
Log Export Restraint.....	LER
Memorandum of Understanding.....	MOU
Million Board Feet.....	mmbf
North American Free Trade Agreement	NAFTA
National Association of Home Buyers	NAHB
United States of America.....	US
Softwood Lumber Agreement.....	SLA
Tariff Rate Quota	TRQ
Thousand Board Feet	mbf
United States Department of Agriculture	USDA
United States Department of Commerce	DOC
United States International Trade Commission	ITC
United States Lumber Coalition.....	USLC
United States Trade Representative	USTR
World Trade Organization	WTO

ABSTRACT

THE MARKET PROCESS: ENTREPRENEURSHIP, INTERVENTION, AND THE ROLE OF THE STATE

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The market process is driven by the entrepreneur, hindered by the intervention of the state, and made possible by institutions that minimize transaction costs. This dissertation addresses these components of economic growth through application of the theory of entrepreneurship, the dynamics of intervention, and institutional analysis.

Chapter one demonstrates the power of the entrepreneur to drive the market using Henry Ford's Five-Dollar Day initiative as an illustration. I offer an alternative to the existing literature that interprets Henry Ford's five-dollar day as an efficiency wage. In contrast, I argue that the theory of entrepreneurship provides a more robust understanding of the motives and purpose behind Ford's novel labor policy. It also demonstrates how entrepreneurial action shapes the contours of the market.

Chapter two applies the dynamics of intervention and public choice theory to international trade barriers. Trade barriers lead to systematic distortions of the market process, hindering growth. The unintended consequences of using trade policy to bolster a nation's economy include an unanticipated and undesired market structure, as well as the prevention of efficient resource allocation. Even if a government manages to improve the terms of trade or protect an infant or favored industry, the inability to use economic calculation to form policy and the disruption of entrepreneurial discovery will prevent the allocation of resources to their highest-valued use. The Chicken War (1963) and the US-Canada softwood lumber disputes (1982–Present) illustrate the theory.

Chapter three is an analysis of the institutional structure of the English tenth-century market economy. After the Viking conquest of the late ninth century upset the political structure of Anglo-Saxon England, the change in bargaining strengths of key political actors led to institutional change. King Alfred's reliance on the rule of law and existing custom to make these changes built predictable sticky institutions. The drive to establish a legal means for the transfer of power at the king's death increased the king's time horizon and thus his encompassing interest in society. An analysis of Alfred's written law code, bureaucratic system, and cultural reforms illustrate the self-interested action of the autocrat, Alfred, and the consequence of a flourishing market economy.

CHAPTER 1: Alert Judgment

“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 (1981, p. 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 (1998, p. 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, p. 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, p. 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, p. 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 chapter 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, p. S76) note that John R. Lee¹ wrote that wages were raised by 105 percent, but labor costs grew by only 35 percent. Using this 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 & Summers, 1987, p. 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, p. 120). These changes alone cut man minutes per car from 728 to ninety-three (Lacey, 1986, p. 120). Also, as Raff and Summers (1987, p. 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 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 & Summers, 1987, p. 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

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

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, p. 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, p. 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 & Taylor, 1999).³ Indeed, Henry Ford stated, "Country-wide high wages spells country-wide prosperity" (Ford & Crowther, 1925, pp.

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.

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 & Crowther, 1925, p. 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 & 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.

This chapter 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 & 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 chapter 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.

1.1 Theory of Entrepreneurship

Entrepreneurship is inherent in all human action (Mises, 1998), and it is the entrepreneur's restless desire to earn profits that drives the market process (Mises, 1998, p. 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, p. 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, p. 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 the recognition of

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, 1998, p. 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, pp. 38–41) original discussion of entrepreneurial profits he states that it is possible to be both entrepreneur and capitalist (p. 39) as well as entrepreneur and resource owner (p. 40). However, Kirzner places the locus of entrepreneurship on the *decision* to embark on the venture (p. 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.

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, p. 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 (1961, 2010) entrepreneur disturbs an economy in equilibrium, where all known opportunities have been fully exploited (Kirzner, 1999). Venkataraman (1997, p. 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, 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, 2010, p. 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 & Venkataraman, 2000, p. 219).

However, this distinction fades away when the Kirznerian pure entrepreneur is removed from the 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 & Klein, 2010, p. 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, pp. 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 promotor’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 arbitrager 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 & 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, pp. 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, pp. 224–25). A priori and statistical probability are risk and estimates that do not fit into those categories are uncertainty. The entrepreneur wrestles with uncertainty, attempting through routinization, generalization, and classification to transform it into risk. Uncertainty applies to most business decisions

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 to act entrepreneurially. It does, however, reinforce the possibility that the entrepreneur will generate a loss rather than a profit.

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, p. 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, p. 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 (1998, p. 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.

1.2 Ford's Labor Innovations Interpreted

1.2.1 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 addressed their concerns head on and demonstrates that what workers desired was an improved working environment, not just

higher wages.⁶ True, there was a wage increase across the board, but this was just one aspect of the initial adjustment. All 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 improved allocation. 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.

⁶ 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, p. 107).

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, 1954). In March 1913 roughly 70 percent of the FMC turnover was classified as "five-day men" (Meyer, 1981). These workers were absent for five days and then officially designated as quitting. 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.

1.2.2 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 & 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.⁷ By

⁷ 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.

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, p. 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, p. 9). Ford's improved compensation package, though 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, p. 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, p. 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, p. 533).⁸ 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.⁹ 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, p. 533).¹⁰ Though 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

⁸ Though in retrospect some would claim the idea originated with James Couzens, there is little to this argument (Nevins, 1954, p. 533).

⁹ 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.

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

the mechanized belt (after February 1914) rendered all estimates judgments under Knightian uncertainty, not calculations of probabilistic risk.¹¹

As mentioned above, the attempt to generalize business decisions, and determine probable outcomes, cannot remove all uncertainty. Following Knight (1921, p. 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, p. 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 & 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

¹¹ 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, p. 147)

16 percent in 1915 (Slichter, 1921, p. 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 wages is the most profitable way of doing business” (Ford & Crowther, 1925, p. 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, p. 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 (CPC, 1946). More specifically, from 1910 to 1913 the number of FMC employees grew fivefold, from 2,595 to 13,198 (Nevins, 1954, p. 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 & Crowther, 1925, p. 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 multidimensional 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, p. 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, p. 76). As a result, by late 1914 the FMC was 71 percent foreign, non–English speaking, and from twenty-two different nations (see Table 1 for specifics) (Meyer, 1981, p. 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*

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

Source: Meyer (1981, p. 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.¹²

Miscommunication led to a dangerous work environment, which included altercations and accidents (Bates, 2012). 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).

¹² Meyer (1981, p. 77) recounts the story of a German foreman who learned Polish so he could communicate with those under his supervision.

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 did not have the same level of success. For example, Packard Motor Company had roughly twelve 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.

1.3 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.

CHAPTER 2: THE INTERNATIONAL DYNAMICS OF INTERVENTION

“The point is that the free-market economy forms a kind of natural *order*, so that any interventionary disruption creates not only disorder but the necessity for repeal or for cumulative disorder in attempting to combat it.”

(Rothbard, 2006, p. 322)

Twenty-first-century populist rhetoric strongly opposes globalization. In the 2010s, populist leaders instigated a proliferation of trade barriers. For example, President Trump imposed steel and aluminum tariffs in March 2018. The 25 percent steel tariffs led to successive rounds of exemptions, retaliation, and increased lobbying. Yet, these barriers continually fail to achieve the objective of rebuilding the steel industry. As recently as January 24, 2020, President Trump imposed tariffs on an additional \$450 million of steel and aluminum imports (Proclamation, 2020). It is essential to understand the impact trade barriers such as these have on the market process. Contrary to the commercial policy of populists, classical economists argued that unilateral free trade is efficient regardless of the policy of foreign nations (Bhagwati, 1988).¹³

No matter the purpose of a trade barrier, it will disrupt the market process and distort price signals. Entrepreneurs, the driving force of the market (Mises, 1998; Kirzner, 1973), seek profit opportunities using tacit knowledge and price signals. Through innovation and price adjustments entrepreneurs compete for customers within a market. Limiting the geographic confines of the market will limit competition and distort the

¹³ Efficiency refers to production at the lowest opportunity cost and consumption at the highest possible indifference curve where exchange allocates resources to their most valued use.

entrepreneur's primary tool for calculation: prices. If foreign steel companies must pay an entry fee (tariff) to participate in the American market, their prices no longer accurately communicate their opportunity costs. There is a buffer that enables American companies to be less efficient than their foreign competition and profit. Likewise, artificially high prices and diminished competition reduce the urgency to innovate. Thus, a protected market will be more inefficient and less diverse than a barrier-free market. This chapter develops and illustrates a theory of the international dynamics of intervention and rent seeking to explore how trade barriers lead to a breakdown of the market process, a misallocation of resources, and the failure of the initial policy.

My analysis of trade wars and protection draws out the intersection of the trade policy, the dynamics of intervention (DOI), and rent-seeking literatures. The trade policy literature is vast, beginning with Adam Smith's (1981) *Wealth of Nations* and extending to present-day work by Krugman (1980; 1987), Feenstra (1994), Bhagwati (2007), Irwin (2017), and Panagariya (2019). Going back as far as Torrens and Mill, economists have argued that manipulating a country's terms of trade through trade policy could improve a nation's well-being (Irwin, 1996, pp. 101–115). Harry Johnson's (1950–51, 1953–54) seminal work in trade policy derived a formula for an optimal tariff and showed it was possible to emerge better off from retaliation. Subsequently, a vast terms-of-trade (optimal tariff) literature has built on Johnson's foundation.

Hamilton and Whalley (1983) calculate the optimal tariff with and without retaliation to show tariff levels of the early 1980s were far from optimal, leaving room to retaliate. Markusen and Wagle (1989) determined the calculations of Hamilton and

Whalley (1983) were too high and show empirically that smaller countries have lower optimal tariffs. Following Bagwell and Staiger's (1999) use of a terms-of-trade model to evaluate the foundational principles of the General Agreement on Tariffs and Trade (GATT), literature developed exploring the impact of trade agreements on the terms-of-trade externality (e.g., Broda, Limão, & Weinstein, 2008; Ludema & Mayda, 2013). Similarly, Ossa (2014) estimates optimal, Nash, and cooperative tariffs. He shows that retaliation is costly, and efficient trade negotiations produce significant gains. Finally, through comparative advantage analysis, Costinot, Lorenzoni, and Werning (2014) conclude that an optimal tariff policy would increase US gains 20 percent in agriculture and 33 percent in manufacturing over a laissez-faire policy.

This chapter asserts that the optimal trade policy literature makes assumptions about government actors that render its real-world application impractical. Namely, it assumes that bureaucrats are benevolent and intend to maximize the *nation's* wealth, and that they have the requisite knowledge to do so. However, regardless of whether the end sought is a wealthier nation, industry, or bureaucrat, the use of trade policy to achieve it will lead to unforeseeable, and likely undesirable, consequences. Bureaucrats cannot predict how political and economic entrepreneurs will evade the barriers, nor can they predict how changes in the institutions (rules) of trade will impact market composition.

The DOI maintains the assumption of benevolence and argues that government actors lack the requisite knowledge to intervene effectively. It began with Mises's (2011) insight that interventionism leads to inconsistencies in an economy that will, at minimum, preclude the achievement of the intervention's goal, and in the limit lead to a series of

crises that push an economy to central planning. Rothbard (2006) developed a typology of intervention and extended Mises' primary thesis. Lavoie (1982, 1985) addressed the so-called "Misesian Gap."¹⁴ Kirzner (1985) elucidated intervention's impact on entrepreneurial discovery, and Ikeda (1997) developed the dynamic process thoroughly. Finally, in an essay honoring Don Lavoie, Bradley (2017) consolidated a typology of the dynamics of intervention.¹⁵

Building upon the work of Kirzner and Ikeda, I argue that trade barriers distort entrepreneurial action, lead to undesirable outcomes, and force the government to intervene further to salvage the economy and achieve its goal. Due to the entrepreneur's pursuit of profit, government attempts to improve a nation's economy with trade policy will lead to new and diverse unanticipated profit opportunities, which may or may not align with the intervention's goal. Since bureaucrats are not residual claimants nor market participants, they cannot use economic calculation to predict these changes. This information vacuum creates political profit opportunities (rent-seeking) that are an entrepreneurial distortion not directly addressed by the DOI due to the assumption of benevolence.¹⁶ "Suppose that, instead of discovering a new commodity or service or production process, an innovating entrepreneur discovers a way to convince the

¹⁴The Misesian Gap refers to the non-existence of a middle way. Mises showed that price controls could not "fix" an economy, but this does not prove there is no middle way. See Lavoie (1982, 1985) for elucidation of this debate.

¹⁵ Bradley's typology addresses the step-by-step process of intervention. In contrast, Rothbard's classification describes three relationships between the government and market participants.

¹⁶ I follow Benson (2002), Ikeda (2005), Boettke, Coyne, and Leeson (2007), and Candela and Geloso (2020) in the evolving Austrian Political Economy (APE) that recognizes that relaxing the benevolence assumption does not destroy methodological integrity (Ikeda, 2004). The critical assumption of APE is structural ignorance (Boettke, Coyne, and Leeson, 2007).

government that he “deserves” to be granted a monopoly right” (Buchanan, 1980, p. 7). When this is possible, entrepreneurs will capitalize on it and compromise the government actor's benevolence. Thus, I include an analysis of rent-seeking motivated by trade policy.¹⁷

In the next section, I build a theory of international intervention to explore the impact of trade policy on the market process. After presenting my approach, I illustrate it with two trade wars: The Chicken War of 1963 and the US-Canada softwood lumber disputes from 1982-Present. I chose these cases due to their diverse contexts and to illustrate the theory. First, The Chicken War was a brief skirmish between allies resolved by a General Agreement on Tariffs and Trade (GATT) panel. The resolution approved US retaliation and the EEC did not repeal its tariff. The fifty-eight-year legacy of the Chicken war illustrates how trade policy shapes global markets. Second, the ongoing 39-year Softwood Lumber Dispute between Canada and the United States illustrates the proliferation of rent seeking necessary to maintain protection and the unintended consequences of unanticipated entrepreneurial action. It also demonstrates trade policy's inability to provide a viable, long-run solution to Canadian subsidies. I conclude with an evaluation of the theory considering the empirical cases.

¹⁷ The influence of special interest groups on the formation of trade policy has been addressed by Tullock (1967), Krueger (1974), Pincus (1975), Lagadec (2014), Kaempfer et al. (2004), and Grossman and Helpman (1992). In a comprehensive review of the antidumping literature, Blonigen and Prusa (2001) detail the political origin and market ramifications of antidumping policy but do not address entrepreneurial discovery.

2.1 Toward a Theory of the International Dynamics of Intervention

2.1.1 The Unhampered Market and Dynamics of Intervention

We make four assumptions to establish the unhampered market (Mises, 1998). First, there is a division of labor and private property necessitating market exchange. Second, no exogenous attempts to manipulate prices. Third, the government prevents intrusions in the market process. Fourth, one takes action to improve one's life. Transactions only occur when actors believe the benefits outweigh the cost. The sale of a car from X to Y for \$2000 indicates that Y values the vehicle more than \$2000, and X less than \$2000. The exchange moves the car to a more highly valued use.

If X and Y are unaware of each other, no exchange occurs, both are worse off, and efficient allocation does not obtain. Improving resource allocation requires an alert profit-seeking entrepreneur, E (Kirzner, 1973). E , aware of society's diverse valuations, earns profits by reallocating resources to higher-valued uses (from X to Y). E 's profits will dissipate as others enter the used car market, increasing supply and lowering prices. Also, if E fails to judge market valuations correctly, a loss will result. This feedback prevents entrepreneurs from continually allocating resources to lower valued uses. Government intervention (violating assumption 3) disrupts this process, alters incentives, and hinders efficient allocation.

The initial government intervention disrupts discovery and alters actors' incentives, preventing the coordination of market and government systems (Ikeda, 1997; 2015). The interaction of these effects produces unintended negative consequences that prevent the intervention from achieving its goal. The government is now at a "nodal

point” (Ikeda, 1997, p. 118). It must either intervene further or repeal the intervention (Ikeda, 1997). The former causes the cycle to repeat, increases the level of intervention, and moves society toward a centrally planned economy. Repeal ends the process and moves society toward laissez-faire capitalism.

Kirzner (1985) details four types of discovery disruption. First, one may intervene to fix a so-called market failure. The government's intervention assumes there is a coordination failure that entrepreneurs will not attempt to profit from. Intervention to correct failure precludes market discovery, and profit opportunities go *undiscovered*. The intervention shifts resource allocation from the economic to the political sphere. Unlike entrepreneurs, bureaucrats and government officials are not residual claimants; thus, they are not profit-motivated. A lack of residual claimants prevents profits and loss calculation, which indicates whether resource allocation has improved. Moreover, they cannot know in advance what the market will discover. Thus, interveners cannot engage in the discovery process; it is *unsimulated*. Intervention that erects barriers to entry diminishes competition and will *stifle* the rivalrous discovery process (Hayek, 2002). Potential discovery is limited to entrepreneurs currently within the borders or those willing to scale them. Due to their counterfactual nature, it is impossible to know the degree to which artificial barriers to entry stifle discovery. Finally, because solving the coordination problem produces profits, and it is unlikely that intervention will approach perfect coordination, intervention creates alternative, *superfluous* profit opportunities. Intervention blocks existing profit opportunities, which redirects entrepreneurial discovery to new possibilities not necessarily desired or known to political actors.

Entrepreneurs typically will not comply with an intervention but attempt to innovate around the intervention, capture profits, and render it moot.

Political actors and bureaucrats lack the relevant information to allocate resources because they cannot simulate the discovery process. Intervention and the prospect of future intervention create a demand for data filled by rent-seeking, special interest groups. Intervention is driven not by perceived market-generated profit opportunities or benevolent bureaucrats attempting to maximize society's wealth but through special interest groups who recognize potential profit through government intervention. This unproductive entrepreneurship (Baumol, 1990) benefits special interests by using society's scarce resources on political influence that fails to efficiently allocate resources.

2.1.2 The International Dynamics of Intervention

A global market has the same fundamentals as the above market with greater competition, economies of scale, and product variety. The essential market process, moving resources from lower to higher-valued uses, is still at work. Similarly, intervention into the unhampered international market will produce a dynamic process.

2.1.2.1 The Dynamic Process

International intervention through trade policy disrupts the discovery process, leading to unintended consequences that force the government to either repeal the policy or intervene further. Suppose Domestic's industry H receives protection from foreign rival F through trade barriers. Initially, H will experience a revival of good fortune as they no

longer compete with F . Though the goal is to enable H to eventually compete with F , H lacks an immediate incentive to discover new profit opportunities through innovation. H 's current profit opportunities lie in continued protection rather than innovation. Thus, H relies on continuous protection from foreign rivals, not innovation, to compete. Suppose F perceives large profit opportunities in Domestic. In that case, F will invest resources in circumnavigating the trade barrier, reapplying pressure to H . Domestic's government will have to either give up on protection or intervene anew. Further, if F 's government retaliates with trade barriers on Domestic's industry I , Domestic will be forced to intervene domestically to support I and internationally to combat F .

2.1.2.2 Undiscovered Discovery

When a contemporary protectionist policy, such as voluntary export restraints, is ratified, the government is attempting, intentionally or not, to protect the current market structure. Formerly successful firms believe they are entitled to their current market share and deserve protection from new foreign competition. Infant industries argue that if given time to move along the learning curve and drive down costs, they will be able to compete internationally. In both cases, the competition from foreign producers jeopardizes the ability of domestic producers to make a profit under the *current market conditions*. When trade policy limits foreign competition, domestic producers do not have the same urgency to anticipate the future state of the market. Entrepreneurial discovery is forward-looking, struggling to earn future profits. Trade policy is backward-looking; countries seek to make their current endowment successful in today's market. Because of this backward-

looking stance, the attempt to fix a perceived market failure with government intervention precludes entrepreneurial discovery. When discovery is discouraged in this manner, so also is economic growth. Though an isolated industry may benefit, consumers everywhere pay more for goods and services, and efficiency-improving innovations go undiscovered.

2.1.2.3 Unsimulated Discovery

Let us now assume that undiscovered profit opportunities exist not from government intervention but because the market failed to discover the best allocation of resources. In this case, we ask how the government recognized the market's failure and determined the best use of society's scarce resources? It used political, not economic, mechanisms. The government cannot reason economically since government officials cannot capture pecuniary profit (Kirzner, 1985, p. 140). When the government uses trade policy to protect domestic industries, it cannot discern the actual cost because the entrepreneurial discovery process is unsimulated. The market solves the knowledge problem through entrepreneurial discovery and economic calculation (Hayek, 1945; Kirzner, 1973). However, bureaucrats who face the same knowledge problem cannot use these tools because trade policy is void of the discovery process.¹⁸ As stated, its policy is predicated on current and past circumstances and looks to prolong those conditions which diminishes economic growth. On the other hand, entrepreneurs capture profit

¹⁸ For more on the inability of government actors to calculate, see Mises (2012), Hayek (1948, Ch. 1–3), and Lavoie (1985).

opportunities when they are alert to an inefficiency in the current market and discover a future solution that improves resource allocation.

2.1.2.4 Stifled Discovery

Not only does protection leave profit opportunities undiscovered, but it also stifles potential competitors from entering the market. Trade barriers impose higher transaction costs on foreigners which limits their ability and desire to compete, stifling their entrepreneurial skills. As entrepreneurial discovery begets more and new avenues for entrepreneurship (Holcombe, 1998), the stifling of foreigners will also slow, or even stop, the virtuous circle of entrepreneurship in the protected industry. Moreover, the intervention stifles entrepreneurs' specialization across borders, limiting potential economies of scale and a global division of labor. Alternatively, in a world without trade barriers, economic actors will specialize in their global comparative advantage. If a US automobile manufacturer cannot compete with foreign competitors, the assembly may move overseas, allowing the foreign firms to take advantage of economies of scale. Entrepreneurs then redistribute the now unemployed US factors of production to more globally efficient uses.¹⁹ Entrepreneurs capture profits in an agile, minimally regulated economy by reallocating factors to more efficient uses. Protecting the domestic industry from foreign competition stifles this creation of value.

¹⁹ Of course, the domestic industry need not fold. Through innovative entrepreneurship, domestic actors can discover new areas for profit-making and compete with their foreign rivals.

2.1.2.5 Superfluous Discovery

Wholly superfluous discovery diverts economic resources in search of new profit opportunities under a new trade regime. Companies do not simply accept the higher tariff-induced prices but attempt to innovate around them. First, when Congress levies steel tariffs, domestic steel-using companies find substitutes, lay off workers, and petition the government for exclusions. While these workarounds improve efficiency under the current regime, actors could use entrepreneurial energy more effectively without the trade barrier. The truly efficient use of resources would be to import steel tariff-free. Second, when tariffs target specific goods, importers invest time and resources to have their products classified alternatively, diverting resources away from innovation and product development. Finally, superfluous discovery leads to the failure of protection. Protection creates a quasi-monopoly rent for domestic firms (Rothbard, 2006). However, superfluous discovery erodes this rent as entrepreneurs discover new ways to compete with the protected good.²⁰

²⁰ Blonigen and Prusa (2001) provide examples of how companies avoid AD duties. For example, they can shift production to the export's destination, a third country, or adjust pricing during the period of assessment. These are examples of superfluous discovery.

2.2 Trade War Applications

2.2.1 The Chicken War 1963²¹

2.2.1.1 Historical Background

In the 1930s, the US chicken industry shifted from individual family farms to massive, technical production. From 1920–60 the industry was transformed by breeding experiments, vertical integration of processing, shifting regional production, and consolidation and expansion of farms.²² Production in 1929 was 34 million broilers²³ and by 1961 was 2.2 billion (Talbot, 1978, p. 3). Yearly per capita consumption quintupled from five to twenty-eight pounds (c. 1945–61). Retail, ready-to-cook prices fell from \$0.595 to \$0.358 per pound (c. 1946–61, non-inflation adjusted).²⁴ Surplus supply and the Institute of American Poultry Industries (IAPI) encouraged Congress to ratify Public Law 480, the Agricultural Trade Development and Assistance Act (1954). Under the auspices of P. L. 480, the USDA and IAPI established a West German market. From 1955–1962 the West German market expanded significantly (See Table 2).

²¹ Ross Talbot (1978) wrote the authoritative work on the Chicken War.

²² Farms consolidated from 50,094 to 35,126 (1959–1964); surviving farms tripled production (Talbot, 1978, p. 8).

²³ A broiler is a chicken 8–12 weeks of age and is the primary chicken export (Talbot, 1978).

²⁴ *The Poultry and Egg Situation*, Bureau of Agricultural Economics, United States Department of Agriculture March 1947, and January 1962.

Table 2. *US Shipments of Poultry to West Germany*

<i>Year</i>	<i>Millions of Pounds</i>
<i>1955</i>	1.2
<i>1956</i>	4.0
<i>1958</i>	7.7
<i>1959</i>	52.0
<i>1960</i>	86.0
<i>1961</i>	137.0
<i>1962</i>	152.0

Source: Talbot (1978, p. 11)

At the same time, Europe was also evolving economically. In March of 1957, “the Six” (France, West Germany, Italy, the Netherlands, Belgium, and Luxemburg) established the European Economic Community (EEC). A long-run agreement was not possible without the support of the agricultural community. The EEC included the Common Agricultural Policy (CAP) to gain this support. Its Regulation No. 22 sought a progressive establishment of a common poultry market (Talbot, 1978, p. 15). At the time, poultry was a small portion of the EEC’s agricultural output (e.g., France’s poultry output was 7 percent of its agricultural output). However, Table 2 indicates increasing European poultry consumption (in 1961 the rest of the Common Market imported 6 million pounds from the US (Talbot, 1978, p. 36)). European agricultural interests desired to enter the poultry market but could not compete with the mature American industry. To build the Common Market’s poultry industry, Regulation No. 22 established multiple prohibitive trade barriers.²⁵

²⁵ There were five different protective measures placed on broiler exports to the EEC by No. 22: (1) a “sluice gate price” with a (2) supplementary variable levy dependent on c.i.f. price and gate price difference, (3) an EEC 2 percent ad valorem duty, (4) a member-state ad valorem duty of 10.5 percent and (5) an equalization fee to account for differential feed grain prices (Talbot, 1978, p. 67; see pages 68–69 for an in-depth explanation of each).

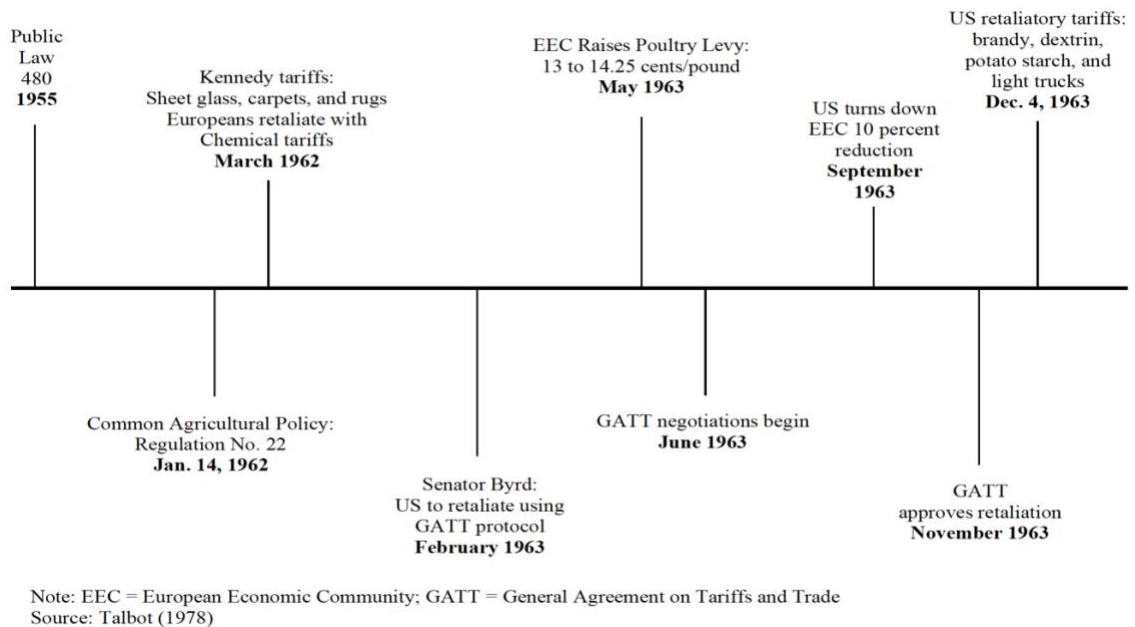


Figure 1. Chicken War Timeline

2.2.1.2 The Chicken War: from economic to political decision making

The USDA's support of the IAPI through P. L. 480 was the first market intervention. The law enabled W. Germany to pay for surplus American poultry with German marks. Entrepreneurs' energy turned to the German market and American broiler exports grew (Talbot, 1978, p. 54). The IAPI, and other leaders in American poultry, set up the International Trade Development Committee (ITDC) to protect their German investment.

The Chicken War began on January 14, 1962, when the EEC Council of Ministers approved the CAP's Regulation No. 22 effectively banning US chicken imports (see Figure 1 for a timeline of key events). President Kennedy retaliated in March of 1962 with tariffs on EEC exports of sheet glass, carpets, and rugs. The EEC responded with tariffs on selected chemicals and chemically treated cloth that impacted \$27 million of

US exports to the EEC per year (Talbot, 1978, p. 71). Here we see the power of intervention to cycle into increasing central, rather than market, allocation. Kennedy chose to levy the above tariffs and not others (e.g., baseball gloves and ceramic mosaic). There was no economic calculation of profit and loss, no market feedback that said American sheet glass had a comparative advantage to baseball gloves. Instead, special interest groups convinced Kennedy that protecting sheet glass was protecting America. Thus, the economy veered away from economic calculation toward political calculation. When the EEC passed Regulation No. 22 into law, it forced a nodal point on the United States. Kennedy chose to intervene more, and in response, so did the Europeans.

Broiler exports to West Germany fell from 5.4 million pounds in January to 3.5 million pounds in August of 1962. Instead of complying with US calls for concession over the next year (until summer of 1963), the EEC alternated raising the overall barrier and making small, unaccepted concessions. In February 1963, Senator Harry Byrd called a special meeting of the Finance committee, which made it clear the US would seek a GATT retaliatory provision. On June 25, 1963, negotiations under the auspice of GATT began. In September of 1963, the US turned down the EEC's offer of a 10 percent reduction in rates and waited for the GATT Panel's advisory opinion.

On November 20, 1963, the GATT Panel determined that the EEC had violated the September 1960 binding (Talbot, 1978). The GATT panel assessed injuries at 26 million dollars, far below the US claim of 46 million dollars. The EEC accepted the decision, and on December 4, 1963, the US ratified GATT-approved retaliatory tariffs on

brandy, lightweight trucks, dextrin, and potato starch. Thus, moving both nations, indeed the world, away from economic to political decision-making.

2.2.1.3 Entrepreneurial Distortions

The protection of the European Common Market poultry has increased. In 1997 the EU banned imports of chlorinated chicken, completing the ban on United States' chicken imports. While these restrictions have allowed the EU to develop a competitive poultry industry, it has arguably done this in a manner that hindered the development of the EU economy. Profit opportunities have gone undiscovered as the European producers have not had to compete with the Americans. As of the summer of 2021, the United States is the world's second-largest exporter of chicken meat, and the EU, though a net exporter, still is the world's fifth-largest *importer* of chicken meat (Mezoughem, 2021). Shutting out the world's second-largest producer of broilers will increase the cost of broilers in the EU. By deciding to fix the market failure of chicken imports in 1963 and 1997 with protective trade barriers, the EEC precluded the market's discovery of a competitive alternative to American chicken. The higher price in Europe incentivizes local entrepreneurs to put resources into poultry production that would have been used elsewhere without the trade barrier. Thus, the trade barriers make it impossible to know the actual value of a European chicken.

Moreover, the trade barriers stifled American entrepreneurs' European discovery, limiting the American market's extent and economies of scale. US firms had established offices in West Germany from which they held cooking schools, demonstrations, and in-

store promotions. They participated in trade and food fair exhibits, market surveys, advertising in newspapers and magazines, in trade papers reaching butchers, chefs, and buyers (Talbot, 1978, p. 54–55). With the 1964 trade barrier came the demise of these entrepreneurial ventures, preventing German butchers, chefs, and consumers from interacting, learning, and benefiting from American ideas.

Throughout the trade war, both the EEC and the US made decisions about which products to support not through profit and loss calculations but political influences. The use of government regulation to “fix” the market opens society to vast misuse of resources as businesses use their capital to pursue protection and government assistance instead of innovation. Instead of market discovery and profit-seeking in the European poultry market, there was political rent-seeking. The United States poultry organizations argued for their "historical" (c. 1960) right to a fixed portion of the West German market. The EEC was building a Common Market partially contingent on European agricultural interests gaining protection from non-European competition. The success of these special interests stifled the discovery process and shifted chicken production from efficient American to relatively inefficient European producers.

Superfluous discovery occurs when entrepreneurs innovate around regulations and barriers effectively rendering the protection moot. One clear case of this is the tariff on brandy. While brandy imports valued over \$9 per gallon appear to have drastically reduced from \$11.5 million to \$1.79 million (Talbot, 1978, p. 122), the brandy importers' creative accounting made these numbers dubious. First, to ship at lower costs beginning in 1964, all advertising expenses were excluded from invoices. Second, customs agents

generally assumed that any brandy that came in containers larger than one gallon was not worth more than \$9 per gallon and was not subject to the tax. The shipment of large containers grew (Talbot, 1978).

Japanese entrepreneurs' superfluous discovery demonstrates the cycle of the dynamics of intervention. In the 1970s, Japanese truck manufacturers innovated around the 25 percent tariff on light trucks by importing the cab chassis and the bed separately (Ikenson, 2003). As the goal of protecting the Big Three was now in jeopardy, the US government faced a nodal point: do they allow entrepreneurial ingenuity to circumnavigate the tariff, or do they intervene further? In 1980, the UAW and Big Three helped answer that question. They successfully lobbied to reclassify a cab chassis as a truck and subject to the 25 percent tariff (Porter, 2008).

The light truck tariff is the only of the four retaliatory tariffs that remain. The initial market impact was swift. Volkswagen truck prices rose \$237 per truck (1964 US dollars), and compared to 1963, sales in the first three months of 1964 were nearly cut in half (3,993 to 2,159) (Talbot, 1978). Year-over-year, light truck imports from West Germany dropped from \$15 million in 1963 to \$5.7 million in 1964 (Talbot, 1978). If the goal here was to protect the US truck market, then the tariff clearly was successful. However, the stated purpose was to gain US companies access to the European poultry market, which they are still denied.

In 2009 Ford, whose F-150 is a great benefactor of the Chicken Tax, found it necessary to innovate around the tariff (superfluous discovery). During the 2008 recession, with gas prices at all-time highs, commercial drivers desired increased gas

milage in their vehicles. Since 2002 Ford had manufactured the Transit Connect van whose lightweight narrow frame and high ceiling was the perfect solution. However, it was manufactured in Turkey; importing it would require paying a 25 percent tariff. To avoid this, Ford installed rear seats, seatbelts, and windows so the customs agents would classify it as a passenger vehicle and only charge Ford a 2.5 percent tariff (Dolan, 2009). Upon arrival in Baltimore, MD, Ford removes and recycles the rear seats, seatbelts, and windows to convert the van for commercial use (Dolan, 2009). Ford thus transforms the imported "wagon" into a "commercial van." The Ford Transit Connect clearly demonstrates the unintended long-run consequences of international intervention. In 1963 no one would have foreseen Ford importing trucks from Turkey. One of the companies that lobbied for protection, and benefited the most from it, required superfluous discovery to avoid its consequences.

The light truck tariff impacted worldwide vehicle production. By 2001 US domestic manufacturers had shifted toward truck production. The Big Three produced slightly more than 50 percent of the sedans sold in the US, but 86.61 percent of the light trucks (Ikenson, 2003). To compete, by 2001, all significant foreign competitors (Toyota, Nissan, Mazda, and Isuzu) manufactured their trucks in the United States. In the same year, of the three million trucks sold in the US, only 6,981 (0.23 percent) were imported (Ikenson, 2003). Moreover, the 25 percent tariff has limited American consumers to only six brands of trucks, compared to more than twenty brands of sedan. The Toyota Hilux, VW Amarok, and the Mercedes X Class, all sell millions outside of the US (Jenkins, 2018).

Is the concentration of truck production within the United States, and lack of variety for the US consumer, the most efficient allocation of resources? While this does improve efficiency, it is a political outcome driven by the current regulatory regime. If Congress repealed the 25 percent tariff, it might be more cost-effective for Toyota to manufacture its trucks in Japan and ship them to the US. However, worldwide truck entrepreneurship has been shaped by the US tariff for over fifty years, and thus we cannot know what efficient free trade production would look like.

2.2.2 US vs. Canada: The Softwood Lumber Disputes (1982–Present)

2.2.2.1 The Rationale: Canadian Stumpage Fees

Softwood lumber, primarily used in home construction, has consistently been an essential commodity in the US-Canada trade. From 1958 until the 1980s, the United States and Canada freely traded softwood lumber (Zhang, 2007). In 1982, Canada's softwood exports met 30 percent of US demand and comprised 60 percent of Canada's production (Kalt, 1988, p. 340). That year the Coalition for Fair Lumber Imports (CFLI)²⁶ alleged that the Canadian government's lumber policy was harming US lumber producers (Kalt, 1988). Canadian lumber companies harvest trees from governmentally owned land for a government-determined price. On the contrary, in the United States, timberland is privately owned, and companies purchase trees through auction. The CFLI filed a petition to the US Department of Commerce (DOC) and International Trade Commission (ITC),

²⁶ 350 US forest product companies and the eight major lumber and timber trade associations composed the CFLI (Kalt, 1988).

arguing that Canadian non-market “stumpage” fees amounted to a subsidy. The CFLI argued that the formula-based stumpage fee was below market price, giving Canadian companies an unfair advantage (Kalt, 1996). This foundational complaint has not changed.

Lumber I	Lumber II	Lumber III		SLA 1996	Lumber IV	SLA 2006	Lumber V
<u>Outcome:</u> ITC determines no injury from stumpage.	<u>Outcome:</u> MOU 15% Canadian Export tax 1987–91.	<u>Outcome:</u> CVD 6.51% 1992–94	Free Trade	<u>Outcome:</u> Tariff-rate Quota	<u>01-02:</u> CVD and AD 19–31% <u>02-03:</u> CVD 16.37%; AD 3.78% <u>03-06:</u> CVD 8.7%; AD 2.1%	<u>Outcome:</u> Export tax range 0–15% or export charge 0–5% plus volume control	<u>17-20:</u> CVD and AD 20% <u>8/20:</u> WTO rejects <u>12/20:</u> CVD and AD
1982	1986	1991	1994	1996	2001	2006	2016 2020

Note: ITC = US International Trade Commission; MOU = Memorandum of Understanding; CVD = countervailing duty; SLA = Softwood Lumber Agreement; AD = anti-dumping duty; WTO = World Trade Organization.
Sources: Kalt (1996); Zhang (2007); Softwood (2020); Vieira (2020); Statement (2020).

Figure 2. *The Lumber Wars Timeline*

2.2.2.2 *The Lumber Wars*

The lumber wars demonstrate the influence of special interests on the dynamic process of intervention. During Lumber I (1982–3), the CFLI was formed to consolidate the voices of the lumber industry in the West, South, and Northeast. During the 1996 Softwood Lumber Agreement’s tariff rate quota system British Columbia coastal companies, Québec, and Ontario formed the Free Trade Lumber Council (FTLC). In 1998, American consumers organized under the leadership of Susan Petunias to form American Consumers for Affordable Homes (ACAH). The FTLC and ACAH quickly formed an alliance that has struggled to compete with the powerful CFLI. In 2016 the National

Association of Home Buyers (NAHB) formed the American Alliance of Lumber Consumers (AALC) with the National Retail Federation and the National Lumber & Building Materials Dealers Association to lobby for free trade softwood lumber (NAHB, 2016).

The CFLI's efforts fell short in Lumber I, and the countervailing duty (CVD) investigation in 1983 denied their petition. The ITC found that the Canadian subsidy was generally available and did not violate US trade law, momentarily forestalling the interventionist process (Kalt, 1996).²⁷ Yet, in a US steel case against Brazil, the DOC created a “dominant use” standard. This trade law innovation stated a CVD was justified if the “dominant user” of a subsidy was found to injure its US competitors materially (Kalt, 1988, p. 342).

Lumber I maintained free trade; Lumber II would not. The new dominant-use clause and the 1986 senatorial election motivated the CFLI to petition the DOC for a CVD in 1986. In October of 1986, the DOC levied a 14.5 percent CVD. The Canadians retaliated quickly with a 67 percent CVD on US corn. This harsh retaliation led to a memorandum of understanding (MOU) which obligated Canada to remove the corn tariff and impose a 15 percent export tax on softwood lumber. In turn, the US agreed to remove the 14.5 percent CVD (Kalt, 1996, p. 270). The goal of this measure was two-fold. First, the export tariff leveled the playing field. Second, the CFLI preserved American market share.

²⁷ A subsidy must benefit a specific enterprise or industry to violate United States trade law (Kalt, 1996).

Between December 1986 and 1991, Canada reformed its stumpage system and removed the export tax in 1991. If the goal of the policy was a reformed stumpage system, then this should have ended the Lumber Wars. However, in Lumber III the CFLI expanded their complaint to include Canada's Log Export Restraint (LER) and did not accept the stumpage reform. The CFLI argued that the price Canadian sawmills paid for logs was below the world price due to the LER. In 1992 the DOC determined a CVD of 6.51 percent was justifiable based on stumpage and LERs (Kalt, 1996). After several appeals through the new Canada-US Free Trade Agreement (FTA) panel, the CVD was revoked in 1994 (Zhang, 2007). Though initially, Lumber III maintained protection, the FTA appeals panel and the 1993 adoption of NAFTA re-established free trade in softwood lumber. The reformed stumpage system and LERs remained indicating failure of the trade policy.

After a brief period of free trade from 1994–95, negotiations in 1995 led to a five-year softwood lumber agreement (SLA) signed in April 1996. SLA 1996 imposed a tariff-rate quota (TRQ) system on Canada and prohibited further trade actions by the United States. Under this agreement, the US restricted imports from British Columbia, Alberta, Ontario, and Quebec to 14.7 billion board feet annually. If exports rose above this mark, increasing prohibitive tariff rates would apply (Zhang, 2007). The SLA gave the US government control of the softwood lumber trade and maintained the desired 70 percent of the US market.

Once the SLA expired, the CFLI commenced Lumber IV, adding antidumping allegations to the stumpage/LER argument. In May of 2002, the DOC determined that an

18.79 percent CVD and 8.43 percent Antidumping Duty (AD) were warranted (Zhang, 2007). Over the next four years, Canada and the United States fought through NAFTA Panels, the WTO, and Administrative Review.²⁸ Lumber IV concluded when SLA 2006 established a new TRQ system, refunded 82.5 percent of CVD and AD duties collected from 2002–06, created a dispute settlement tribunal from the London Court of International Arbitration, and stipulated a seven-year duration with a possible two-year renewal and twelve-month cooling off period (Zhang, 2007). In 2016, the Obama administration and the Canadian Minister of International Trade held talks to move toward a new SLA (Statement, 2016). Yet, in late November 2016, the CFLI initiated Lumber V (Softwood, 2020).

In November 2017, the DOC determined a combined CVD and AD rate of about 20 percent, and in December, the ITC approved this decision (Softwood, 2020). In August 2020, the WTO ruled that the US incorrectly calculated these duties since they relied on benchmark prices in one Province for all of Canada instead of regional prices (Vieira, 2020). In September, the US promptly appealed this ruling and then issued a final determination of a combined CVD and AD of 8.99 percent (Softwood, 2020; Statement, 2020).

US companies continue to fight for a market stumpage system in Canada; Canada wants to return to the TRQ system of SLA 1996. Both options maintain the protection of US lumber interests and managed trade, trumping the market process. The repeated DOC

²⁸ Yearly, foreign, or domestic companies may request a reassessment of CVD or AD determinations from the US government.

investigations demonstrate the failure of trade policy to achieve its goal. Moreover, the addition of LERs and AD complaints reveal the superfluous entrepreneurship of the CFLI. Rather than investing in cost-cutting innovation, lumber invested in discovering new methods of political control. The protective tariff did not create an even playing field, but a consistent percentage of the US market controlled by Canadian exports that continue to benefit from state-subsidized stumpage fees. Trade policy has not satisfactorily changed Canadian stumpage laws, nor has it made the US more efficient. Instead, it stifled the market process by politically determining the “best” allocation of scarce resources before the entrepreneur could discover their most valued use.

2.2.2.3 Entrepreneurial Distortions

Because the softwood lumber market has been kept in stasis by trade policy, American firms lack incentive to compete directly with the Canadians and profit opportunities go undiscovered. Creative and entrepreneurial energy is given to the US Lumber Coalition’s (formerly CFLI) efforts to lobby and pressure the ITC, DOC, and US Congress for relief from unfair trade practices. Similarly, the trade barriers limit the amount of profit that Canadian lumber mills can earn exporting product to the United States. Even if a Canadian company discovers a way to serve the American customer better than the status quo, it could not fully capitalize on the discovery. Canadian entrepreneurs are thus led by a visible hand to seek alternate means to earn profits, leaving the American consumer out

of their calculations.²⁹ More profits are available on both sides of the border by lobbying Washington DC than discovering better ways to harvest trees in Washington or British Columbia. If protection from DC was not an option, how much more advanced would the American lumber industry be today? How much cheaper would housing be?

Because trade barriers are established without market discovery, they lead to an environment where price does not reveal the market value of lumber, but the relative strength of interest groups. Diminished competition then hampers the market process and redirects entrepreneurial focus. The softwood lumber trade barriers led to efforts to reclassify lumber products (superfluous entrepreneurship), a more efficient Canadian industry (unintended consequence), increased supply during the SLA 1996 and consequently lower prices by 2000, and innovation in lobby techniques (rent-seeking).

During the 1996 Softwood Lumber Agreement Canadian companies lobbied the United States Customs and Border protection to reclassify various softwood exports. Specifically, studs drilled for wire use (both 2x4 and 2x6) were reclassified as joinery and carpentry exempting roughly C\$240 million a year in softwood exports from the TRQ system (Zhang, 2007, p. 153). Windows and doorframes were also reclassified. In April of 1998 after the CFLI put pressure on Customs, these classifications were reversed and drilled studs, windows, and doorframes all were subject to the quota (Zhang, 2007, p. 153). Notched studs and rougher headed lumber were also classified as value-added products and not subject to the 1996 SLA TRQ system with exports to the US valued at

²⁹ For example, in the 1991–2 countervailing duty investigation Canadian companies spent US\$20 million on lobbyists and lawyers (Baucus, 1992).

more than C\$300 million annually (Zhang, 2007, p. 154). In 1999, the CFLI began lobbying for these and more than a dozen other products (e.g., exterior siding and trim) to be subject to the TRQ system. Canada avoided reclassification by accepting a specific quota for rougher headed lumber that was accepted by the United States in late 2000 (Zhang, 2007, p. 155).

After the 1996 agreement expired and a combined CVD and AD of 27 percent was levied on Canadian imports one would have expected prices to rise and Canadian companies to feel the brunt of the pain. However, it is impossible to predict exactly how the market will respond. The immediate response was, as expected, the closure of many Canadian mills. However, the firms that remained were Canada's most efficient producers which led to an unintended consequence of a fall in average costs of US\$65/mbf duty inclusive (*The Economist*, 2003).³⁰ In addition, European producers responded by increasing exports to the United States. Prices in the American softwood lumber market fell by 10 percent from May of 2002 until January 2003 and 114 American Mills were closed while only 51 Canadian mills were closed (*The Economist*, 2003).

Since the TRQ system constrains the market to a predetermined number of Canadian imports, and the CVD and AD barriers mandate an artificially high price, the entrepreneurial discovery process is unsimulated. An accurate economic valuation is not possible. Instead, politicians and trade lawyers rely on experts to determine the portion of the market that will be Canadian. So, the on-going Lumber War has incentivized

³⁰ mbf – thousand board feet; mmbf – million board feet; bbf – billion board feet.

American and Canadian companies to develop a highly skilled lobby to make a case for increasing or decreasing Canadian imports.

On the American side of the border, the Coalition for Fair Lumber Imports (now known as the US Lumber Coalition (USLC)) is the primary actor. At every interval in the lumber wars the CFLI initiated injury investigations with the ITC (1986, 1991, 1994–5, 2001, 2006, and 2016). Special interests motivate this trade policy, not benevolent bureaucrats. Expenditure on lobbying in the pivotal years of 2000 (at the end of the 1996 SLA) and 2005 (just prior to the 2006 SLA) demonstrate the importance of trade barriers to these organizations. In 2000 the CFLI spent 2.113 million dollars, and in 2005 they spent 1.39 million dollars on lobbying (Open Secrets, 2020).

In 1986 the CFLI won their first battle. There were senate races in Washington, Oregon, Idaho, Georgia, and Alabama. Each of these states had numerous softwood lumber industries, and the CFLI used the elections as a catalyst to get CVD investigations initiated (Kalt, 1988). In Lumber II there was no opposition to the CFLI. The National Association of Home Builders was the only organization that may have contested their claims since its members are the chief purchasers of softwood lumber. In the United States, new housing starts, and softwood lumber consumption are highly correlated. For example, from 2005–9, new housing starts fell 74 percent, and consumption of softwood lumber fell 41 percent (Hoover & Fergusson, 2018). However, in 1986 the NAHB estimated only a 2 percent increase in housing costs from the CVD, while the 1986 Tax Reform Act would have ended the mortgage interest deduction. Therefore, they directed their political power against the Tax Reform Act (Carliner, 1996).

Recently, the NAHB has determined lumber inputs to be a more significant amount of the input costs, one-fifth to one-sixth of the material costs in a single-family home. Higher lumber prices due to CVD and AD increase construction companies bottom line, hurting the members of the NAHB. In 2016 the NAHB formed the American Alliance of Lumber Consumers with the National Retail Federation and the National Lumber & Building Materials Dealers Association to lobby for free trade in softwood lumber (NAHB, 2016). In a letter to the US Trade Representative (USTR) on April 22, 2021, NAHB chair John Fowke (2021) argued that the USTR should not ignore the NAHB members' role in the economy. They construct 80 percent of the new homes in the US with materials sourced worldwide. Fowke (2021) points out that an already stressed lumber market combined with current disruptions in supply led to a tripling of lumber prices between April 2020 and 2021. This effort fell short; the May 27, 2021, US Federal Register reported new AD and CVD rates. By company, West Fraser had the lowest total (11.38 Percent) and Resolute the largest (30.22 percent); the average company faced total duties of 18.32 percent (Federal Register, 2021)

Canadian companies also lobby. In a letter to Joseph Laroski, Deputy Assistant Secretary for Policy and Negotiations Enforcement and Compliance, on behalf of The Conseil de l'industrie forestière du Québec and The Ontario Forest Industries Association, Baker Hostetler LLP made the case that Canadian lumber policy is fair and does not inflict injury on the US industry (Feldman, Snarr, & Anwesen, 2020). They raise multiple issues that attest to the trade barriers' distortion of the lumber market and the influence of special interests and government on the American market. First, they alleged

that US lumber interests want to use trade policy to undo Canada's comparative advantage in lumber production rather than counter an unfair stumpage subsidy. Second, they point out that the American lumber industry receives government assistance. Federal, state, and local governments fund US road and environmental concerns. Canadian logging companies are responsible for the roads and environmental concerns. This makes it difficult to determine if the stumpage system gives Canadian companies an advantage over US companies. Third, both Québec and British Columbia have developed stumpage auction systems, but the US has not validated them. Fourth, it is arguable that import quotas from the 2006 SLA slowed the economic recovery in 2009. Finally, the Center for Sustainable Economy has calculated that commercial logging in the US received \$1.2 billion (about \$4 per person in the US) from public sources in 2017 (See Table 3). Thus, they argue that if there is an advantage it is in the United States, not Canada.

Table 3. Public Funding for US Special Interest Groups

<i>Years</i>	<i>Organization</i>	<i>Amount</i>	<i>State</i>	<i>Type</i>
2011–2017	PotlatchDeltic	1.5 million	Arkansas	Sales
2011–2018	PotlatchDeltic	612,154	Arkansas	Use
2001–2010	Potlatch Corp	2.5 million	Nevada	Sales & Use Tax Abatement
1995*	Weyerhaeuser Company	103 million	Kentucky	Credits/Rebates
2003–2019	Weyerhaeuser Subsidiaries	305 million	Multiple & Federal	
2006–2017	Stimson Lumber Co.	1.4 million	Oregon & Washington	Credits & Training Reimbursements
2016	Seneca Sawmill Co	71,045	Oregon	Energy Incentive Program
2010	Hawkins Inc.	1.3 million	Mississippi	subsidized lending
2013	Hawkins Inc.	100,000	Mississippi	State grants and loans
2007–2018	Swanson Group	497,643	—	Tax abatements and training reimbursements
2008–2017	Pleasant River Lumber Co	857,690	Maine	Property Tax Abatements and Tax Rebates
2018	Pleasant River Lumber Co	4,226,000	Maine**	Grant for a Sawmill Expansion

Source. Feldman, Snarr, and Anwesen, 2020.

Note. *Approved in 1995 but received over the next several years. **The grant came out of a \$45 million bond that the Maine Technology Institute manages for the State of Maine.

Joseph Kalt (1988, p. 355, 359) calculated the potential welfare effects of the two different 1986 trade policies: the 15 percent CVD and the 15 percent export tax. The primary difference between the two is which government gains at the expense of the consumer. Because Lumber II concluded with the export tax, according to Kalt's (1988) calculation, the Canadian government received US\$117.6 million from the US government to appease the CFLI and maintain the Canadian FTA. However, the United States government does not pay Canadian taxes. They are paid primarily by the American consumer in higher home prices.

Following Tullock (1967, p. 228), American lumber interests will be willing to invest in lobbying for a transfer until the marginal return on the last dollar spent is equal to the anticipated return on the transfer. Kalt (1988, p. 355) calculates a US\$400 million potential transfer to US lumber companies. This potential has led to an ever-present lumber lobby. In 1995 as the Canadian share of the market expanded under free trade, a CFLI fundraising letter was leaked that requested US\$75 million to protect the industry through Congress. The letter also stated that the Canadian industry had spent between 50 and 100 million US dollars on the last case (Zhang, 2007). The combined expense, below the potential US\$400 million, nonetheless is roughly 44 percent of the transfer Kalt calculated.

In 2000, Senator Robert Byrd attached a rider to the agricultural appropriations bill that increased the potential transfer by paying AD duties directly to the petitioning companies (Zhang, 2007). The Byrd rider passed just before the CFLI sought antidumping relief. To initiate an AD investigation, 50 percent of domestic producers

must support it. The incentive to receive a portion of the duties collected at the border was ample motivation to gain at least 50 percent support (Zhang, 2007).³¹

2.3 Conclusion

Trade barriers hinder the international market process. Though their justifications are manifold, the above theory and illustrations argue that those justifications require reassessment. Using trade policy to protect a country's industries from foreign competition results in a dynamic, cyclical process driven by unforeseen entrepreneurial discovery.

I have illustrated this process with the Chicken and Lumber Wars. Since intervention circumvents the market discovery process, the resulting shape of the market is not based on market valuation, but on the negotiations of bureaucrats and special interest groups. This results in allocation by special interests and trade barriers, not to most valued use. In fact, the world value of resources is not possible to determine. Lightweight trucks, poultry, lumber, all these goods are not produced by the individuals with comparative advantage, but by the countries with the prevailing trade barrier. Due to the unsimulated discovery process of intervention, there is a proliferation of special interest groups and rent seeking (see Table 3). Also, entrepreneurial energy is diverted to unproductive innovations in rent seeking such as the dominant use clause and the Byrd Rider.

³¹ In Kalt's analysis, the government would collect 117 million dollars; under the Byrd rider, private companies would collect the entirety.

Trade barriers stifle entrepreneurial discovery. Foreign companies will only innovate to compete to the point that quotas or tariffs make it cost-effective. The domestic consumer is denied the variety of foreign products and the lower prices that result from competition. For example, the West German consumer was denied the US poultry companies' innovations in cooking, American homeowners pay more for houses, and the American truck market is expensive and limited in scope. Finally, the ubiquitous presence of entrepreneurial discovery leads to superfluous opportunities that no one, not a special interest, bureaucrat, nor congressperson, could anticipate. These opportunities, such as the Japanese truck imports or the Ford Connect, reveal that it is not possible to know how a trade policy will play out in the market. The use of tariffs to protect specific industries has led to political, not economic, efficiency. The above price and production changes are responses to shifts in the political, not the economic, environment. When the government protects its industries from low-cost foreign competition, it diverts entrepreneurial energy from efficiency-improving ingenuity to political maneuvering.

CHAPTER 3: INSTITUTIONAL CHANGE AND ECONOMIC GROWTH

When the Vikings first landed on the shores of Britain in 796, there was wealth to plunder and minimal defenses. Daron Acemoglu and James Robinson (2019) described ninth century England as a "disunited" four kingdoms: Northumbria, Mercia, East Anglia, and Wessex. Over the next seventy years, the Viking invaders intermittently ravaged the countryside, but in 865, the Great Heathen Army landed intent on conquering the Isle (Kurrild-Klitgaard and Svendsen, 2003). They quickly conquered Northumbria (c. 867) and East Anglia (c. 869), with eastern Mercia proving to be a bit more stubborn (c. 877) (Pratt, 2007, p. 93). Wessex was more elusive still. After spending four months in the Athelney swamps, Alfred and his household troops mobilized and unified the remaining West Saxons at Ecberht's stone in May of 878 (Ables, 1998, p. 159). From there, the West Saxons drove the Vikings out of Wessex and western Mercia into East Anglia.

The renewal of governing institutions during Alfred's reign led to a growing market economy and the political unification of England. Prior to Alfred's rule Anglo-Saxon kings did extend their influence over the other Anglo-Saxon kingdoms, but as roving not stationary bandits (Olson, 1993). The 'Bretwalda' exacted tribute from submissive kings but did not annex their kingdoms.³² In the eighth century Offa of Mercia attempted to do more and subsume the other Anglo-Saxon kingdoms but was unable to establish a lasting domination outside his immediate neighbors. Offa did not

³² 'Bretwalda' is a term coined by an author of the *Anglo-Saxon Chronicle* from the ninth century to describe those that Bede described as ruling all the southern kingdoms. The title was never used in practice and was roughly synonymous with Overlord of Britain but did not have a formal definition or any official power or office (Bede, 1999).

take over Northumbria or Wessex. Alfred did not conquer as much land as Offa, nor did he make all of England Wessex in his lifetime. However, his descendants Edward the Elder (r. 899–924) and Æthelstan (r. 924–39) established England's modern borders through continuance of Alfred's policies and with the resources of the growing market system (see Figure 3 for Alfred's family dynasty). During the reign of Edgar the Peaceful (r. 959–975), England grew to become the preeminent European power. England's governing structure was so efficient that Cnut (r. 1016–35) and William the Conqueror (r. 1066–87) did not replace it but build upon it. By 1066 the evolution of the Alfredian cultural renaissance and institutional structure had transformed the four kingdoms into England.

Economic historians view the English as precocious regarding economic and political development (North & Weingast, 1989; O'Brien, 2011; Johnson & Koyama, 2014; 2017). Throughout English history there have been key moments that contributed to its political and economic power. North and Weingast (1989) point to the credible commitment established in the Glorious Revolution. Kiser and Barzel (1991) analyze the post-Conquest evolution of the rule of law and protodemocracy through contracts between English kings and their people. Leeson and Suarez (2016) analyze the self-enforcing aspects of the most famous of those contracts, the Magna Carta. They show that the Charter of 1225 was necessary because the Magna Carta was not self-enforcing. Acemoglu and Robinson (2019, pp. 164–169) hint that ninth century Wessex was another moment that contributed to the early development of the English government and economy. Here we explore this potential. I present King Alfred's (r. 871–899) reign as a

case study of an exogenous shock (Viking invasion) that led to formal institutional change (laws, infrastructure, and cultural) that reinforced the informal institutional framework of society. I utilize public choice and new institutional economic theory to analyze and explain the formal and informal changes made by Alfred (Buchanan, 1975; Brennan & Buchanan, 1980; North, 1990; Tullock, 1987; Olson, 1993; Barzel, 2000; Congleton, 2011; McGuire and Olson, 1996).

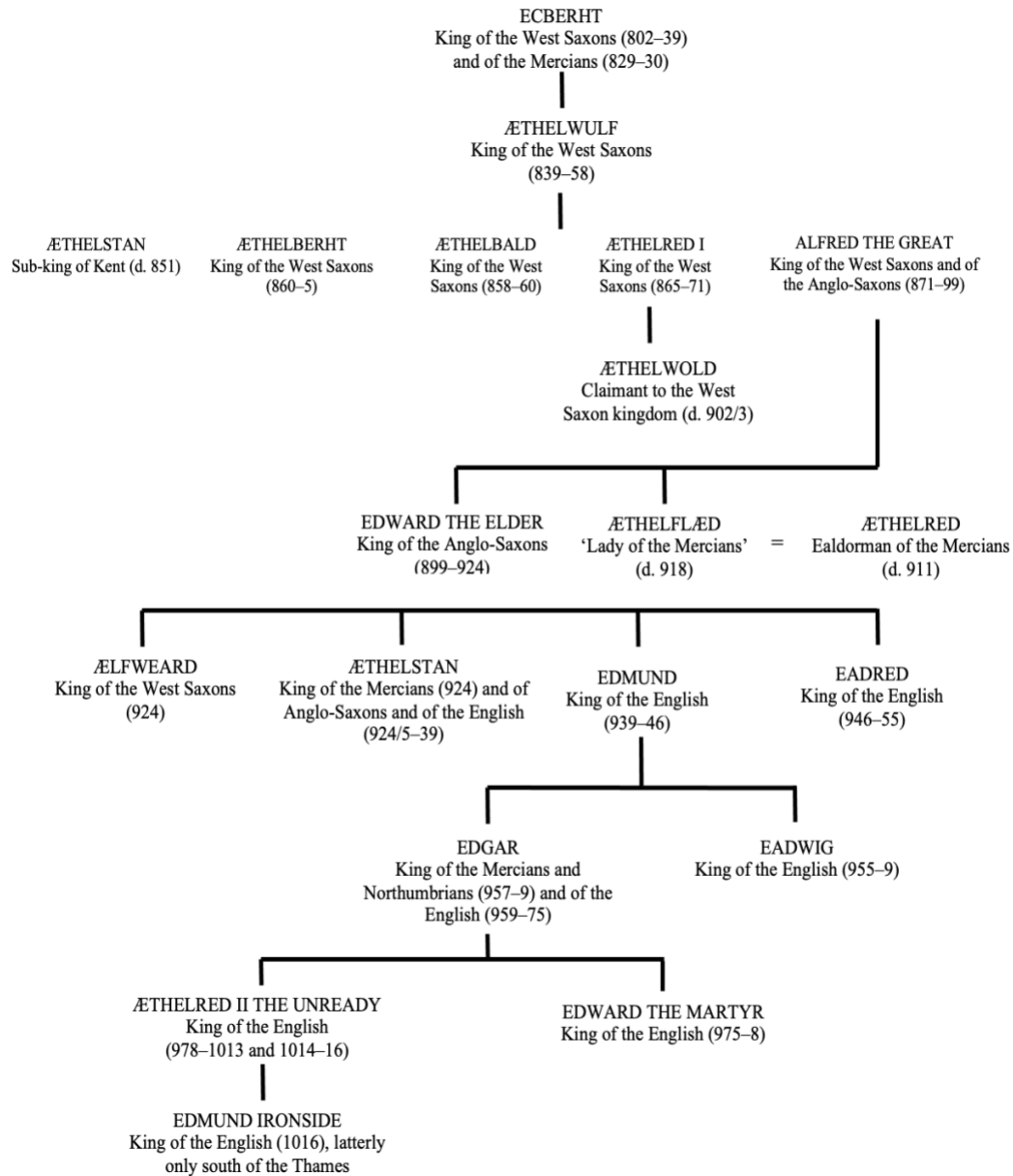


Figure 3. *The Wessex Dynasty*

I contribute to the long-run growth and economic history literature investigating institutions' role in economic development (Acemoglu et al., 2005; North, 1981; 1990; North, Wallis, & Weingast, 2009). From this chapter's analysis we expand our understanding of the role that current informal institutions play in bolstering attempts by the government to expand its fiscal and protective capacities (Boettke, Coyne, & Leeson, 2008). Alfred's institutional innovations provide insight into the role of institutions in economic growth. We also see how Alfred transitions the Bretwalda from a roving to stationary bandit through development of the military, legal system, and national culture.

I also add to the existing literature on the Alfredian burh system and the economic impact of the Vikings on Anglo-Saxon England. S.R.H. Jones (1993) analyzes the transition from an allocative system based on gift-giving and institutional redistribution to one based on monetary exchange in markets. Jones (1993) builds on Douglass North's (1981) thesis that markets spread when transaction costs are declining by adding "emergency conversion" as a motive for the English transition. The West Saxons altered their mode of exchange because of an outside force: the invasion of the Great Heathen Army. Koyama et al. (2018) present a theory for why external threats could motivate the rise of a strong and effective state. Koyama et al. (2018, pp. 198-200) apply their approach to the rapid rise of the Anglo-Saxon state in response to the invading Viking army. Jones (1993) addresses the Viking impact on the development of *the market and exchange*; alternatively, Koyama et al. (2018) analyze the *implications for state capacity*. I interpret the Viking arrival as an exogenous shock that altered the relative price of tribute collection versus direct rule. The shift in relative price made the 'Bretwalda'

overlord position no longer feasible. To protect his rents the king now had to establish direct rule through property protection and rule of law. I model the king as a wealth maximizer to explain the development of *both* the market and state.

I first build a theory of the state and institutional change with which I explain the origin of Alfred's institutional innovations. Next, I present evidence for the uniqueness of England's tenth-century market economy. Finally, I analyze the path dependent quality of the Alfredian innovations in the late tenth century and the reigns of Cnut and William the Conqueror.

3.1 Theoretical Framework

Political actors, here limited to autocrats, take action to achieve a specific end that will improve their personal wellbeing. I do not imply that they are completely devoid of public interest (Munger, 2011), but autocrats are primarily concerned with maximizing rent extraction and any societal benefit is secondary.

Institutions refer to humanly devised constraints that structure incentives in political and economic exchange (North, 1990). Formal institutions are the legal constructs of society. Informal institutions are the norms and rules created, communicated, and enforced outside officially sanctioned channels (Helmke & Levitsky, 2004). People structure their social interactions to maximize their satisfaction within a given institutional framework. When the framework is perceived to limit the populace's consumption or the autocrat's rent extraction, they adapt to or change that institution. The relative price of institutional change compared to maintaining the status quo is based on

transaction costs, an institution's 'stickiness', and the political actors' strength. A change in formal institutions is often precipitated by a change in actors' relative bargaining strengths. For example, the death of a king or an invasion could cause such shifts in power. When consequent formal changes build off the informal framework, the new institutions will be "stickier" than if they attempt to rebuild society anew (Boettke, Coyne, & Leeson, 2008).

A ruler's encompassing interest in society is directly tied to the ruler's long run stability (Olson, 1993, p. 571). An insecure autocrat will tend to extract as much wealth as soon as possible and lack incentive to protect long term contracts and production. Alternatively, a stable autocrat will consider the impact wealth extraction at time t_0 has on wealth extraction at time t_n . Thus, he will have an interest in securing long run contracts and encouraging multi-period production. Rulers that prefer a secure, long-time horizon with consistent wealth extraction experience a tradeoff between extracting wealth in t_0 and establishing the authority and infrastructure for extraction in t_n .

A ruler that desires secure, long run wealth extraction will seek protection from foreign bandits and domestic rivals. A strong army will provide protection and the ruler's greatest threat. The army protects the border and facilitates wealth extraction, but also may stage a coup. The most dangerous and expensive situation an autocrat can face is a powerful, dissatisfied elite (Vahabi, 2020, p. 236). Legitimate rivals make the current king's short run rule uncertain, due to their ability to unite a dissatisfied elite. Rivals also introduce the long run uncertainty of wealth and power transfer at succession. To extend

his time-horizon it is therefore necessary to build a powerful, loyal coalition and establish a consistent accepted method of succession.

Rulers rely on two extreme strategies to maximize their time horizon and stability: coercion or consent. The coercive, ruthless king maintains his inner circle through promoting the belief that any coup will end badly. To do so, a king must regularly display the potential to ruin those who overstep or maintain rent payments that more than offset the perceived gain of participation in the coup. Alternatively, a king who relies on persuasion and consent invests in reciprocal relationships that rely not only on a power imbalance, but also mutual gains from trade. The ruthless king, for fear of rebellion, cannot allow his subjects to gain too much wealth and thus has incentives to hinder economic development. On the other hand, a wealthy population is in the interest of a king reliant on reciprocity. A satisfied population that perceives itself as benefiting from the autocrat's rule will be less likely to rebel. However, disgruntled, and disaffected elite arise in all societies; their success in subverting the ruler lies in effective recruitment. A coercive king subverts recruitment efforts by increasing the cost of rebellion primarily through two methods. First, the ruler imbues a fear of challenging the status quo by increasing the likelihood and severity of punishment. Second, he increases rent payments to the most influential elites. On the other hand, a contractual king increases the cost of rebellion through increasing society's general satisfaction level introducing incentives to fight for the status quo and diminish the likelihood of rebellion.

Oppression will breed disgruntled citizens with little to lose, predisposed to support an elite's call to rebellion. Rebellion may be stayed when the king's boot is on

their necks, but when that king dies the boot will be momentarily lifted providing an opening for rebellion. Transition in a kingdom built on mutual benefits will marginally produce fewer supporters of rebellions due to higher levels of satisfaction.³³ Yet, transition is still the most precarious time for both coerced and consenting societies. Rulers who desire to extend their rule through their offspring will therefore do all they can to smooth the transition process.

Even when the elite benefit from the current regime, the level of uncertainty underlying the heir's willingness to continue the predecessor's policies and honor his commitments is of central concern. If the king's elite and subjects that currently benefit from the king's rule anticipate that next king will not continue to honor the same societal structure, this makes the king's, and his heir's, reign unstable. Rather than make promises of continued support through legal contract, the coercive king invests in the army's support of his heir through increased rent payments to the generals and severity toward rivals. In extreme cases, kings will kill off or exile rivals to secure a dynasty.

Alternatively, the contractual king will attempt to formalize his commitments and policies. He will use charters and written law to establish ownership and signal that his heir will maintain the status quo. The consistent application of existing custom and law by the king will increase belief that the heir will act similarly. Additionally, the transfer of some power to the heir while the king is alive will further signal consistency and

³³ While I state this plainly, a king will not necessarily recognize this. Kings who gain their power from violence, may see violence as the only way to retain power, in their generation and the next. However, other kings may recognize that investing in their people's wealth is a long run profit opportunity.

increase the belief in the heir's legitimacy.³⁴ Finally, in a society built on consistent application of the law and contract, a legal method for the transfer power will be more likely honored and further increase the belief in consistent policy extending the ruler's time horizon.

Rulers govern on a spectrum that runs from coercion to consent. A ruler's allocation will depend on how he hopes to elongate and stabilize his rule. We anticipate that the successful development of a contractual society will lead to growth over multiple generations, where rule by force is limited in its scope for long run development.

3.2 Alfred's Institutional Innovations

Alfred had various motivations (e.g., wisdom, piety, a unified people, and the glory of God), that required him to secure rent extraction over an indefinite time horizon. Alfred's translation of *Boethius* illustrates, "I never greatly delighted in covetousness and the possession of earthly power, nor longed for this authority, but I desired tools and materials to carry out the work I was set to do, which was that I should virtuously and fittingly administer the authority committed to me" (Abels, 1998, p. 212). Alfred required earthly power and wealth to administer authority over a united, Christian England. The arrival of the Vikings made the collection of tribute as a Bretwalda and the protection of multiple isolated Anglo-Saxon kingdoms too costly incentivizing the consolidation of the Anglo-Saxon kingdoms.

³⁴ Eberht made his son Æthelwulf sub-king in Kent prior to inheriting the throne. Æthelwulf continued the practice (Yorke, 1990, p. 148, 168)

3.2.1 Historical background

In 869, the Great Heathen Army came south from York to conquer rather than pillage. It quickly subdued the Kingdom of East Anglia, and its King, Edmund, was either killed in battle or executed in captivity (Abels, 1998, p. 125). The year 871 brought two major changes to the battle for Britain. First, Guthrum and his followers joined the Viking army (Abels, 1998, p. 134). This strengthened the Viking forces, and brought the future King of East Anglia, Guthrum, to the battle. Secondly, King Æthelred I of Wessex died after suffering wounds in battle at *Meretun* and the throne was passed to Æthelwulf's youngest son, Alfred. Alfred inherited a small army and poor royal administration (Abels, 1998). To raise an army, Wessex kings relied upon consent rather than coercion. Alfred initially struggled to raise an army because the landed elite of the time rarely aligned with an untested lord. He purchased a five-year cease-fire at Wilton in the fall of 871 to build an army and reinforce defenses (Abels, 1998, p. 142). However, Alfred was unsuccessful in drawing enough followers to prevent his exile from his capitol, Winchester. After breaking the short-lived peace, in 878, Guthrum drove Alfred into hiding in the Athelney swamps. After eight months of raiding and proving his mettle, Alfred was able to gather an army and force Guthrum's withdrawal from Wessex in December 878. The Viking's upheaval of the Anglo-Saxon power structure led Alfred to establish new institutions to secure and extend his realm.

3.2.2 Establishing the throne

Anglo-Saxon political and military institutions were feeble in 878. Even though Guthrum was defeated, and a peace treaty signed, peace was not guaranteed. Even if Guthrum followed the treaty, there was still a high probability of the arrival of more Viking raiders. In addition, unifying all English Christendom and establishing succession would require a more robust military and surer political footing. Alfred had defeated the foreign threat and established secure borders; now, he needed to make the Saxon and Mercian army loyal.

Alfred completed this process in two phases. Immediately after his coronation in 871, he had to secure the favor of his brother's *witan* since Æthelred's two young sons also had claims to the throne.³⁵ The *witan* had to confirm the king formally, and without its support, the king stood little chance of being able to wield power. Moreover, an offended *witan* could become the champion of another *ætheling*.³⁶ The rival *æthelings* increased the uncertainty of Alfred's legitimate right to rule, so it was important to establish his legal prominence over his nephews'. At this time Alfred lacked coercive power and so had to rely on persuasion to accomplish his goals (Abels, 1998, p. 18). Thus, instead of murder or exile, Alfred relied on legal custom and the current power structure to establish his right to rule. Building on the current institutions increased the likelihood of the *witan*'s support, the longevity of his reforms, and the security of his position. The continuity in signatures on charters between Æthelred I's and Alfred's early

³⁵ The *witan* was the king's council of the most powerful men of Wessex.

³⁶ An *ætheling* is one with a legitimate claim to the throne.

charters confirms the continuity of Æthelred I's witan in 871 (Abels, 1998, p. 135).

Alfred maintained a secure royal establishment and avoided an early coup by not alienating the mighty men of Wessex.

The ability of Alfred to succeed where the rest of England's kings had failed lay in the secure transfer of the throne. To do this he relied on his father's will (Abels, 1998, p. 179), the agreement with his brother Æthelred I at *Swinbeorg* (Abels, 1998, p. 132–3), and the support of the witan (that is consent), rather than warring or murder (coercion). The Northumbrian lords were feuding over succession when the Danes arrived and were quickly turned against each other and defeated (Campbell et al., 1982, p. 149). Mercia was in a similar situation with disaffected rivals easily swayed by the Danish invaders.

However, the balance of power between Alfred and his brother's witan in 871 was not in Alfred's favor, and once he established peace with Guthrum in 878, Alfred was on uncertain ground. By Wessex law, Æthelred's sons were still æthelings, and Æthelwold had strong reason to contest Alfred's reign now that he was grown, and the immediate threat of war passed.³⁷

Alfred began by rebuilding the witan. By 878, Alfred was a victorious warrior and had built the reputation necessary to build a loyal witan. Many of his brother's witan were killed or had betrayed Wessex during Guthrum's conquest, opening the door for Alfred to form a witan in his debt. As Abels (1998, p. 178) clarifies, the shift in the composition of the witan increased Alfred's power and security. Before 878, Alfred owed

³⁷ Evidence of Alfred's success lies in Æthelwold's failed rebellion that relied on Viking support early in Edward's reign (c. 902) (Abels, 1998, p. 108).

his power to the witan, for these men were already 'great,' and they 'made' *him*. Post 878, Alfred's witan owed allegiance to the victorious Alfred who made *them*. With his witan securely in his corner he turned to the law to establish an enduring right to rule. In the mid 880s, Alfred called a meeting of the witan to hear his nephews' grievance. The witan determined that Alfred was the just heir, and his nephews received their inheritance (Abels, 1998). Documentation of this event occurs in Alfred's will, in which Alfred secures the throne for his son Edward (Abels, 1998).

3.2.3 Security of the realm

Now that his right to rule, and his son's succession was legally secured, Alfred's encompassing interest expanded with his time horizon. He thus turned to the protection of his realm and rents. In securing his realm Alfred moves toward the coercive side of the spectrum. Participation in the *fyrð* was not voluntary; his rule was enforced through a strong military and defenses, not pure contract.³⁸ Alfred's militaristic innovation was three-pronged: he built a navy to rival the Vikings, reorganized the *fyrð* to make a standing army and developed the burghal system, a series of fortified towns (burhs) within one day's march of each other throughout Wessex.

Though the Victorian claim that Alfred was the founder of the English navy is dubious, innovations during his reign had far-reaching implications (Campbell et al., 1982, p. 150). The *Anglo-Saxon Chronicle* refers to Alfred's new 60-oared ship design

³⁸ The term *fyrð*, an army of nobles who owed military service to the king, is first seen in the law code of Ine, a seventh-century Wessex king whose law code (see below) was foundational for Alfred's. (Abels, 1982, p. 17)

that eventually became the Anglo-Saxon standard. In 1008 the *Chronicle* referred to a "shipsoke" obligation to supply a ship and a 60-oar crew. However, Edgar likely began this institution to subdue Ireland (Campbell et al., 1982, p. 173).

Alfred's reorganization of the *fyrð* aimed to make a battle-ready army composed of non-professional soldiers. Alfred replaced the former convention of calling the *fyrð* when an enemy threatened with a standing army.³⁹ He did this by maintaining half of the *fyrð* at service and half at home, which mimicked the tri-rotational system that Alfred had already instituted in his household guard. He kept one-third of his guard with him for a month while the other two-thirds spent two months at home. Not only did these systems secure the royal quarters and the border with Guthrum, but the half and two-thirds that stayed home discouraged theft and disorder. The *fyrð* was required to provide horses which created a mobile army capable of chasing down the Vikings. Wormald (1982, p. 150–4) contests the reality of a standing army during peace since it would mean half of the nation's farmers neglecting their harvest. He contends that Alfred's organization was for provisions as the gap between a peasant's resources and what it took to arm a specialized warrior grew. Æthelstan made it plain that the requirement was about provisions. He required two well-mounted men to be supplied for every plow (Wormald, 1982, p. 154). Though not clear precisely what 'plow' meant, it was clear that Æthelstan required peasants to supply the army's resources, and not necessarily serve.

Alfred's innovations did not stop with the *fyrð*. The multifaceted impact of his fortified burghal system was essential in the short run for protection and the long run for

³⁹ This innovation is documented in the 893 *Anglo-Saxon Chronicle* entry (Abels, 1998, p. 196).

economic growth. Evidence of the burhs is recorded in the Burghal Hidage (c. 914-918), which dictates the number of men required to defend a burh and lists thirty-three burhs, thirty in Wessex and three in Mercia. Significantly, the Burghal Hidage requirement of men indicates the conscription of 27,000 men to protect Wessex (Campbell et al., 1982). While this system was undoubtedly Alfredian, it has roots in the rights of Anglo-Saxon kings as attested to by Charles the Bard in 864 (Campbell et al., 1982). The burhs were defensive, helping to ward off the 892 Viking invasion. However, Edward, Æthelflæd, and Æthelstan all built burhs in newly captured territory and used them to stage raids and offensive campaigns (Abels, 1998, p. 199). The burh was not simply a militaristic tool. As shown below, the burh enabled the monarchy to administer royal justice, extract revenue, and provide its bureaucracy with rents. They did not only aid the elite but became centers of trade and production and a burgeoning tenth-century producer class.

3.2.4 Reeves, rent extraction, and burhs

The burh, though initially a coercive measure meant to protect the wealth of the realm, became a center piece of government and trade. The oversight of reeves, while a potential hindrance to trade, ultimately allowed for the extent of the market to grow. After years of being pillaged, it was difficult to trust strangers. All commerce in the burhs was certified by a reeve. For a given fee, he protected property rights and ensured fair and safe exchange (Abels, 1998). This process known as “vouching to Warranty” promoted a contractual society with a legal system of ownership and exchange of property (Jones, 1993, p. 673). Reeves also enabled foreign exchange. As the West Saxons had learned

from the Vikings, foreign traders and marauders often look similar. To open the burhs up to a broader, unknown exchange network, Alfred extended a provision of Ine's law that decreed a trader must bring his crew before the reeve at a public meeting. The leader was held responsible for any laws broken by his band, and the reeve accountable for the safety of the trader's crew (Abels, 1998). As trade increased across England and East Anglia, these adjustments increased Alfred's ability to extract wealth, increasing the potential of the English to produce and develop economically. As noted by Jones (1993), the reduction in transaction costs that came about from Alfred's coinage and burh system increased the amount of commerce in England. By the middle of the tenth century, burhs were known not for their military strength but their mint and market.

Indeed, though the initial purpose of the burghal system was protection from raiders, it became the multifaceted gem of Anglo-Saxon England. Alfred and his son Edward the Elder both referred to reeves holding regular court hearings in the burh. Edward ordered these to take place every four weeks (Molyneaux, 2015). The reeves also extracted pledges of obedience from the men in their district. By Æthelstan's time, there was a reeve in every burh collecting the king's tithe (Molyneaux, 2015, p.108). Alfred's ealdorman served a similar purpose, collecting compensation payments, presiding over meetings, and assisting victims of wrongdoing. The king rewarded them with one-third of the revenues they collected (Molyneaux, 2015, p. 111).

3.2.5 Cultural Reform

When considering Alfred's institutional innovations, one must reckon with the impact of the documents that survive him. Earlier kings may have rivaled his power, but none influenced British institutions to the extent that Alfred did (Pratt, 2007). This influence comes from Alfred's development of informal institutions including education, morals, language, and religion. Alfred's introduction of educational reform and use of the colloquial tongue to communicate with his people encouraged the development of an English people rather than Saxon, Dane, Mercian, or Anglican.

These changes, while attributed to Alfred's love for wisdom and his God were quite practical.⁴⁰ Heterogeneous cultures are more difficult to rule than homogenous ones. Thus, rulers attempt to unify the population's customs, norms, and beliefs. To unify the "Anglish," Alfred began to nation-build (Alesina, Giuliano, & Reich, 2019). Alfred attempted to educate all free children in Wessex. Moreover, he developed a written form of the colloquial language and spent many resources on the revival of English Christianity.

The primary external threat that Alfred faced to his rule was the Vikings. Now victorious, Alfred continued to develop institutions reliant on consent and contract rather than coercion. The Danes did not consume England in 1018, nor did England become "Grande Normandie or France Occidentale" in 1066 (Tombs, 2015, p. 80). The roots of the Danish and Norman embrace of Englishness lie in the stories and norms told from

⁴⁰ Alfred's devotion to the Church came from his father's unusual pious character. Æthelwulf took two trips to Rome, one with Alfred. Æthelwulf also gave one-tenth of his land to the church c. 854 (Campbell et al., 1982, p. 140).

Bede onwards, and Alfred played a significant role in continuing and building the ideal of "the English." The clergy were the main transmitters of the stories (Tombs, 2015, p. 81). Without Alfred's attempts to restore Christian teaching, the renaissance of learning would not have occurred. Alfred and the Church both taught that the ravages of the Vikings were a scourge of God (Abels, 1998). Thus, promoting Christian morals and virtue carried the same level of import as building an army, and encouraged voluntary participation in the army when necessary. In providing a reason and remedy, for the Viking invasion, Alfred unified his people around an idea. He did this by overseeing the translation of 'certain books which are most necessary for all men to know' into the vernacular (Old English) (Abels, 1998, p. 227). Alfred disseminated these works to return the priests to their rightful duty, to his bishops for study, and to educate the youth in virtue and wisdom.

The promotion of a national language was central to Alfred's nation-building campaign. He required ealdorman, judges, and reeves to learn to read Old English. If they failed, they would lose their office and its privilege (Abels, 1998).⁴¹ He established a court school in the 890s for instruction in both Latin and Old English for children. The aim was for boys to learn to think before they began to hunt at eight years old. In addition, Alfred translated Gregory's *Pastoral Care*, *Boethius*, *Soliloquies* (St. Augustine), and the first fifty Psalms and disseminated them around the kingdom.

⁴¹ This anecdote comes from Asser's *The Life of Alfred*. One of the essential, ninth-century biographical documents that has survived (Abels, 1998).

Whether his mission appeased Christ, I will leave it to the theologians; however, the mission to educate the English people had clear positive externalities. The spread of a common language further decreased transaction costs and increased potential for trade. Moreover, the standard curriculum of the free boys established common values and beliefs. Alfred's mission to Christianize the populace ironically made them English. Indeed, being Christian was a significant portion of what that meant. By adding introductions to accepted works, Alfred put his spin on the moral of these tales and laws. English Christianity, wisdom, and virtue, though based on the Psalms, Roman thought, and the church fathers, were rooted in *Alfred's* translation and interpretation of accepted texts. Thus, English Christianity, wisdom, and virtue were unique to the Isle and Alfred.

3.2.6 Law establishes Alfred's dynastic reign

Alfred's written law developed a powerful new ideology of kingship that bound the West Saxon nobility more closely to himself and his progeny. In writing his law code (*domboc*), Alfred portrayed himself not as a lawgiver but a law-finder and refiner.⁴² In the introduction, he states that he gathered the laws of Ine (Wessex), Offa (Mercia), and Æthelberht (Kent), writing down those that pleased him and rejecting those that did not (Wormald, 1999). He presented these to his witan, who approved and agreed to follow them.

While the witan was not a "proto-Parliament" (Abels, 1998), Alfred clearly understood the importance of consulting their opinion in all significant decisions. The

⁴² Again, Alfred is using the established formal and informal institutions to build a stable society.

law code, Guthrum's treaty, and the building of the burhs were done with the approval of the witan, furthering a culture of consent and contract. From this, we can conclude that though Alfred was sovereign, to maintain his position, it was necessary he followed certain behavioral norms to maintain support. Though not a significant check on the king's power, the kings of Wessex were constrained. This is perhaps why Alfred did not set himself up as the lawgiver but as one who was merely continuing in the tradition of the great "English" kings.

In 879, Alfred signed a treaty with Guthrum that established multiple provisions to ensure his throne's longevity (Abels, 1998). The treaty was the first diplomatic document in English history (Wormald, 1999). It established a border that split Mercia between Guthrum and Alfred. Also, Alfred baptized Guthrum and became his godfather. This act of contrition went a long way to the blending of the two cultures. Also of significance was the treaty's provision that made the wergeld for killing an Englishman in the Danelaw the same as killing a Dane; at the same time, a Dane killed in Wessex or Mercia would carry the same wergeld as an Englishman (Tombs, 2015, p. 35; Wormald, 1999).⁴³ This provision sought to put the two cultures on equal footing.

The authenticity of Alfred's law code, *domboc*, has been confirmed, but its purpose continues to be debated (e.g., see Wormald (1999) and Pratt (2007)). In comparing the Carolingian *lex* to Anglo-Saxon *lage*, Wormald (1999, p. 134) concludes that in general, this era's law played a political role in addition to, and perhaps more important than, its legal role. Written law, says Wormald, was an agreement between

⁴³ Wergeld, set by an individual's status, was the price paid for killing an individual.

ruler and ruled that entitled the latter to gain justice from the former. In other words, it was a means of securing consent through formal contract (Wormald, 1999, p. 134). Pratt (2007) also references the Frank's but comes to a slightly different conclusion. Charlemagne's *Lex Salica* provided a focal point for Frankish identity. Similarly, Pratt (2007) interprets the *domboc* as a reorientation of royal law that built a shared identity in the ninth and tenth centuries. I do not view these as mutually exclusive, as they both encourage an Englishness that is chosen rather than imposed upon the people.

During Alfred's era, the law was primarily an oral tradition, so the institution a lengthy written law may seem out of place.⁴⁴ However, in the context of Alfred's greater mission of establishing his rule and unifying his people through legal means, it becomes clear that it was part of Alfred's attempt to secure his reign through a shared understanding of justice. Recall, he insisted his judges learn to read and blamed a lack of *Christian* justice for the Viking scourge. Alfred's *domboc* provided a focal point for the English people to gather around to avoid such future calamities. Two elements of Alfred's extensive preface make this clear.

First, Mosaic Law dominated the preface (Frantzen, 1986). The reference to a people of God punished for profligacy and rewarded for righteousness cannot be missed. Alfred called his people to a moral standard with *his* law, and he required those that administered justice in his realm to read, understand, and administer this standard. The Mosaic preface gave the *domboc* the weight of a moral document intended to teach the

⁴⁴ Preconquest Alfred's law was by far the lengthiest code at 8,773 words, roughly 1,500 words longer than Cnut's and 6,000 words longer than Ine's (Wormald, 1999, p. 265 footnote 1).

proper way to live, including mundane issues such as theft, injury, oaths, slander, feuds, public holidays, etc. The inclusion of the Mosaic Law also gave the English a sense of being a peculiar people of purpose, thus binding together diverse peoples. The enforcement of these everyday matters by the portreeves in the burhs established a kingdom of commerce. The security of property and person in the burh drew people into the market.

Secondly, at the end of the preface, Alfred acknowledges three kings: Ine (Wessex r. 689–726), Offa (Mercia r. 757–96), and Æthelberht (Kent r. 589–616). He then refers to himself as "King of the West Saxons," which contradicted the fact that at the time (c. 893), he was called the king of the Anglo-Saxons (Wormald, 1999, p. 277, 281). Wormald does not see the inclusion of these three kings as an effort to unify a people greater than Wessex but indicating that he was adding to Ine's code. Yet, Frantzen (1986) interprets the inclusion of Mercian, Kentish, and Wessex law as an attempt to create "English" law. Wormald states that the roughly 24 items Alfred added were new legal principles; thus, he was not creating English law but expanding what came before (Wormald, 1999, p. 282). Yet, if only attempting to improve Wessex law, there was a minimal benefit to referencing these other kings. Even if the traditionalist nature of Alfred's law did not change things significantly in Mercia or Kent, the inclusion of their famous Kings would necessarily call for unity among the peoples.

A review of the items Alfred added to English law reiterates his desire to solidify his and his lords' standing through a society build on law (Wormald, 1999, p. 282–285). He codified oaths and pledges that until then were just *traditional* norms and customs. In

doing so, Alfred made treason against one's lord to be the only crime punishable by death and unable to be compensated with wergeld (Frantzen, 1986). These treason laws were the first since the 786 Legatine Council (Campbell et al., 1982, p. 155). The laws concerning loyalty to a person's lord, and the king, were likened to the Shema Israel, which Jesus declared to be the first and greatest commandment. Alfred proclaimed that it was not only God that people should love with all their heart, soul, and mind, but that people should love their lord and king in the same manner (God and Country). To further establish his authority and build his treasury, Alfred made the wergeld for violations of oaths to ealdormen paid directly to the king. The *dombac* also laid out extensive guidelines for the succession of bookland that parallel Alfred's will and assured succession to his male heir.⁴⁵ Alfred altered feuding law to protect the lords and king from an uprising. While a commoner could fight alongside his lord or kin if attacked, he was not allowed to do so against his lord or king. Also, the *dombac* raised the standing of holy persons and seasons by doubling the penalties for offenses against them. In line with Alfred's effort to establish justice, the bulk of the code dealt with personal injury, property, and theft (Frantzen, 1986). However, most new provisions dealt with securing Alfred and his lineage, building his treasury, and lifting the clergy to a place of legal exception. All of these make sense when considering Alfred as a self-interested ruler establishing a legal right to the English throne.

⁴⁵ Bookland was granted by a "book" or charter in Anglo-Saxon England and had the unique quality of not returning to the king's possession when the owner died.

3.3 Tenth Century Economic Growth

Richard Hodges (1989) refers to tenth century England as the First Industrial Revolution. Whether or not this bold title is warranted, a boom in insular production and trade occurred in the tenth century. Evidence for this growth is manifold. First, Alfred's descendants continued to build mints, the quality of silver pennies was consistent, and circulation increased. Second, the wealth that the Vikings plundered in the early eleventh century would not have existed if England had not dramatically expanded its production capabilities. Third, insular trade flourished, and international trade was restored. Fourth, the division of labor grew dramatically during the tenth century as new trades spread throughout England. Fifth, laypeople led an extensive Church building program to signal their wealth and devotion to the Church. Finally, the rapid population growth of the tenth and first half of the eleventh centuries demonstrates a prospering nation.

Evidence of the massive growth of commerce in England exists in the number of mints operating by the time of Edgar's reign. The establishment of a mint in a town signifies the demand for coin as a medium of exchange. If monetary exchange was not taking place in a town or region, then there would be no demand for currency exchange and production, and thus no profit opportunity in the creation and operation of mints. Therefore, if the number of mints is growing, then demand for currency production and exchange exists which is derived from the existence of monetary exchange.

When Alfred took the throne, there were two active mints in Anglo-Saxon territory (London and Canterbury), and by the time of his death, there were at least eight. Sixty years after Alfred's death, Edgar's (r. 959–75) expanded the number of mints from

forty to sixty (Stewart, 1988, p. 214; Dolley, 1976, p. 358). Near the end of his reign (c. 973), Edgar initiated regular reissues of the currency at six-year intervals. These coins had the site and name of the moneyer on them to assure quality. From mint location, we know that two-thirds of the coins were minted in a city other than where they were found (Metcalf, 1982, p. 204); the distribution of coinage throughout England reveals that exchange took place from town to town and was not limited to isolated large commerce centers. Unfortunately, we cannot use the coins found in England to attest to overseas trade. Æthelstan's Grately code (c. 930) required that foreign coinage must be converted to the coin of the realm.⁴⁶ Thus, all foreign coins entering England were recast and indistinguishable from local coinage (Dolley, 1976, p. 357).

Also, by Edgar's reign, England had mints in high, middle, and lower order market towns, while the Danelaw territories only had mints at Chester, Lincoln, and York (Hodges, 1989). Hodges' (1989) shows the Danelaw of the 900s was less developed than England. Wessex had middle-ranking towns like Bath, Cricklade, Wareham, and Wallingford as early as the 890s, whereas the Danelaw had only a few mid-sized market towns supporting York.

Still more evidence of the rapid economic growth of the towns is found in the large Danegeld that Sven Forkbeard (r. Dec. 1013–Feb 1014) and Cnut (r. 1016–35) extracted before conquering England. Viking Raiding resumed in 979, shortly after the crowning of Æthelred II. To hold back the Vikings, the English paid 10,000 pounds of silver in 991, 24,000 pounds in 1002, and 48,000 pounds in 1012. By 1018 Cnut was in

⁴⁶ While Æthelstan was unable to enforce this strictly, by the time of the 973 recoinage Edgar was.

control of the whole of England and demanded 82,500 pounds of silver (Jones, 1993, p. 674). The Vikings' successive increases in extraction demonstrate the vast wealth created in the tenth-century English markets. Indeed, by the early eleventh century, anyone with silver pennies could get whatever he pleased at the markets (Jones, 1993, p. 675).

Also, under Alfred's burh system trade within the kingdom began to flourish in new ways, allowing his lands to sell in more markets. A charter from c.884 and 901 mentions tolls paid to the king from those trading salt from Droitwich (in northwestern Mercia) (Maddicott, 1989). Prior to Alfred's reign there is no evidence for this type of trade within the Isle. During Ireland's "forty-years rest" from Viking war (c. 873-913), the Anglo-Saxons traded with the Irish in lieu of a continental trade stifled by Viking raids (Maddicott, 1989).

Consistent with markets expansion, the Anglo-Saxon burhs saw an increase in the division of labor and technological improvements. Leatherworking was prominent in Gloucester and Durham, and glassmaking in Hereford and Lincoln (Hodges, 1989). Almost all urban, tenth-century excavations found potter's workshops. There was no novel technological change in tenth-century England but instead an adaptation of techniques from the continent (Hodges, 1989, p. 160). Pottery workshops began to use single-flue kilns and kick wheels to meet new demand, and textile production increased from warp-weighted looms. The enlarged market demand also brought about the manufacture of carbonized steel blades for swords and iron alloys and pewters for precious metals in jewelry (Hodges, 1989).

Before the 1066 Conquest, the English built nearly 4,000 stone churches. Hodges (1998, p. 172) references Richard Morris' work on the "Big Bang" of churches c.1000. Morris estimates that 200 stone churches were erected per decade by local lords. A private, country-wide development like this required a large population of skilled artisans and a massive quarry industry.

Following the work of economic historians (e.g., Clark, 2007) population and urban density growth are used as proxies to demonstrate economic growth. So, if there was growth in population and population density in tenth-century England, this an indication of economic development. The population of England increased from between one-half million and one million in 900 to over 2 million in 1066. Though England in 1066 was still smaller than at the zenith of Roman rule, the growth rate during the tenth and early eleventh century was more significant than ever before (Hodges, 1989, p. 177).

3.4 Long Run Change

Alfred's innovations impacted the long-run formal and informal institutions (See Table. 4 for the Kings of England before the Conquest). The burhs became known for their markets and mints, vouching to warranty, and the verification of ownership in exchange. The expansion of mints and monetary powers began with Alfred and continued through Saxon rule and were adopted by Cnut and William. In 973, Edgar's decision to renew the currency every six years became regular practice (Metcalf, 1982, p. 204). By Harold and Harhnacnut, the renewal occurred every two to three years (Metcalf, 1982). After the

Conquest, William maintained these proceedings and the network of mints (Metcalf, 1982).

Table 4. Kings of England Pre-Conquest

<i>King</i>	<i>Rule</i>
<i>Æthelstan</i>	924–939
<i>Edmund I</i>	939–946
<i>Eadred</i>	946–55
<i>Eadwig</i>	955–59
<i>Edgar ‘the Peaceful’</i>	959–75
<i>Edward II ‘the Martyr’</i>	975–78
<i>Æthelred II ‘the Unready’</i>	978–1013
<i>Sweyn Forkbeard (Dane)</i>	Dec. 1013–Feb 1014
<i>Æthelred II ‘the Unready’</i>	1014–16
<i>Edmund II ‘Ironside’</i>	Apr. – Nov. 1016
<i>Canute ‘the Great’ (Dane)</i>	1016–35
<i>Harold Harefoot (Dane)</i>	1035–40
<i>Hardicanute (Dane)</i>	1035–42
<i>Edward III ‘the Confessor’</i>	1042–1066
<i>Harold II Godwinson</i>	Jan. – Oct. 1066
<i>William ‘the Conqueror’ Norman</i>	1066–87

Official witnesses were in towns; this spontaneous process began when towns were first forming as traders looked to certify their goods and reeves sought revenue, but it became required by law during the reign of Edward the Elder (r. 899–924). Edward mandated a guarantor to oversee trade and that trade had to occur in a town (Loyn, 1971). Edward failed to enforce this law, but it developed an official "vouching to warranty" process that would endure. Indeed, Edgar the Peaceful (r. 959–75) distinguished large cities (36) and small cities (12) by the number of official witnesses (Jones, 1993).

Moreover, Cnut (r. 1016–1035) associated burhs with the process of "vouching to warranty," revealing the persistence of this market-inspired and government-enforced institution.

From the foundation of the Alfredian burhs in the late ninth and early tenth centuries to the Norman conquest in 1066, their social, economic, and governmental complexity grew dramatically. The Normans capitalized on this. For example, before the conquest, only a handful of churches had moved from rural to urban locations (e.g., Abbotsbury, Petersborough, and Bury St. Edmunds). Post-conquest, William and Archbishop Lanfranc oversaw full-scale urbanization of bishoprics, impossible without the Anglo-Saxon foundations (Loyn, 1971).

In discussing the parallels between the laws found on the continent and those in Anglo-Saxon England, Patrick Wormald (1999) points out that Alfred's laws may not have been as advanced or organized as Charlemagne's (r. 768–814). However, in the tenth century continental law deteriorated, while English kings expanded their law-making power. English law-making capacity began to grow by progressively building upon the laws of Alfred. In 1019 after subjecting the English to his rule, Cnut urged his people to "firmly keep Edgar's law, which all men have determined and sworn to at Oxford" (Wormald, 1999, p. 131). Cnut did this to assure his subjects that there would be continuity between the dominions and prevent rebellion.

When Henry I took the throne in 1100, he referred to Edward the Confessor's (r. 1042–1066) law. But Edward's law harkens to both Cnut's and Edgar's, which ultimately recalls Alfred. Thus, Wormald (1999, p. 134) concludes that herein lies a hint that the

political dramas of a century and a half *after* 1066 (i.e., Magna Charta) were choreographed 180 years *before* 1066 during the reign of King Alfred.

There were also basic positions in government that continued to evolve from Anglo-Saxon times to William's. It is true that William installed a new royalty and distributed lands to his barons, but some English positions remained. The administrative system pre-Conquest was the most efficient in Europe, and neither Cnut nor William would altogether remove it. The shire was the fundamental building block, and their territories remained with minor alteration until 1974 (Tombs, 2015, p. 36). The position of Sheriff, which began in 1000, was expanded by William but not removed. Also, during Edward the Confessor's reign (r. 1042–66), the exchequer developed out of the Sheriff. It was likewise modified and built upon by the Normans (Campbell et al., 1982, p. 237).

However, the longest-lasting impact of Alfred's institutional innovation was creating the idea of the "English" through language, religion, and shared norms. As mentioned above, informal institutions change at the margin and in slow increments. Alfred did not use his new bargaining power post-Viking victory to overturn all of society's institutions. Instead, he established his reign by altering the current formal and informal practices considering society's norms and customs to build his treasury and establish his family dynasty for more than 100 years.

3.5 Conclusion

Foundational institutions are necessary for markets to flourish over the long run. The Viking invasion of the British Isles in the ninth century shifted bargaining power so that

Alfred had the necessary strength to alter the institutional framework. In addition to his military exploits, Alfred's early reliance on custom and law were key in laying the foundation for a society built on consent and contract. The belief that society would continue to honor the contractual agreements of the father's after they died, is important for long run growth. Alfred's continuance of Æthelred's customs and witan encouraged this belief. He brought security to his throne and his descendants by reliance on the current legal custom relying on that witan to certify his significant acts and building his written law off prior Anglo-Saxon law. Alfred also altered Anglo-Saxon custom at the margin in a manner that encouraged trade, indeed trade with his former enemies. Protection of person and property are essential to encouraging trade. The treaty with Guthrum made penalties for killing noble Danes and Saxons the same. This, and Guthrum's baptism, set the stage for the eventual merging of the two societies through trade.

To maximize his potential to extract wealth from society, Alfred then improved governance, protection, and exchange systems. The *domboc* codified oaths and pledges, exacting the death penalty for violating an oath to a lord. It also gave the Church greater prominence, doubling the penalty for an offense against a holy person. Alfred's government protected the average Anglo-Saxon from slander, theft, and physical violence. The legal code encouraged a consensual relationship between the people and their king, elevating his position above the ealdormen, and promising the people protection. These provisions established the elite of society while at least in principle

protecting the average subject from theft. The combination of the two encouraged trade,, specialization and the growth of personal wealth.

Protection came in the form of coerced rotating service in the *fyrð* and development of fortified cities; however, the need for coercion was minimized through nation-building. In 892, the Vikings returned to pillage, but after three years of losses, they left in 896 (Abels, 1998, p. 303). The protection of the burhs was validated, but they turned out to be much more than defense. They became sites to overhaul the monetary supply, organize rent collection, host regular public hearings, "vouching to warranty," and focal points for exchange. These changes established Alfred's dynasty and allowed English protection to flourish, enabling Alfred's descendants to extract wealth over a prolonged time. Moreover, the eventual "peace, easy taxes, and justice" of Edgar the peaceful led to unprecedented production, markets, and population growth (OLL, 2021).

REFERENCES

- Abell, O.J. (1915). The making of men, motor cars, and profits. *Iron Age*, 95, 33–41.
- Abels, R. (1998). *Alfred the great*. Taylor & Francis Group.
- Acemoglu, D., Johnson, S., & Robinson, J. (2005). The rise of Europe: Atlantic trade, institutional change, and economic growth. *American Economic Review*, 95(3), 546–579.
- Acemoglu, D., & Robinson, J. (2019). *The narrow corridor: states, societies, and the fate of liberty*. Penguin Press.
- Alesina, A., Giuliano, P., & Reich, B. (2019). Nation-building and education. NBER Working Paper 18839.
- Bagwell, K., & Staiger, R.W. (1999). An economic theory of GATT. *The American Economic Review*, 89(1), 215–246.
- Barzel, Y. (2000). Property rights and the evolutions of the state. *Economics of Governance*, 1, 25–51.
- Bates, B.T. (2012). *The making of black Detroit in the age of Henry Ford*. University of North Carolina Press.
- Baucus, M.S. (1992), “Reaction to Commerce Department softwood lumber decision”, *Max S. Baucus Speeches*, 485, available at:
https://scholarworks.umt.edu/baucus_speeches/485.
- Baumol, W.J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Political Economy*, 98(5), 893–921.

- Bede. (1999). *The Ecclesiastical History of the English People*. Oxford University Press.
- Benson, B.L. (2002). Regulatory disequilibrium and inefficiency: The case of interstate trucking. *The Review of Austrian Economics*, 15(2), 229-255.
- Besley, T., & Persson, T. (2010). State capacity, conflict, and development. *Econometrica*, 78(1), 1-34.
- Bhagwati, J. (1988). *Protectionism*. The MIT Press.
- Bhagwati, J. (2007). *In defense of globalization*. Oxford University Press.
- Blonigen, B.A., & Prusa, T.J. (2001). Antidumping. NBER Working Paper 8398. DOI 10.3386/w8398.
- Boettke, P.J., Coyne, C.J., & Leeson, P.T. (2007), Saving government failure theory from itself: Recasting political economy from an Austrian perspective. *Constitutional Political Economy*, 18, 127-143.
- Boettke, P.J., Coyne, C.J., & Lesson, P.T. (2008). Institutional stickiness and the new development economics. *American Journal of Economics and Sociology*, 67, 331-358.
- Bradley, R.L. (2017). A typology of interventionist dynamics. In J. High (Ed.), *Humane economics: Essays in honor of Don Lavoie* (pp. 64–85). Mercatus Center at George Mason University. (Original work published 2006)
- Brennan, G., & Buchanan, J. (1980). *The power to tax: Analytical foundations of a fiscal constitution*. Liberty Fund.
- Broda, C., Limão, N., & Weinstein, D.E. (2008). Optimal tariffs and market power: The evidence. *The American Economic Review*, 98(5), 2032–2065.

- Buchanan, J.M. (1975). *The limits of liberty: Between anarchy and leviathan*. University of Chicago Press.
- Buchanan, J.M. (1980). Rent seeking and profit seeking. In J.M. Buchanan, R.D. Tollison, & G. Tullock (Eds.), *Toward a theory of the rent-seeking society* (pp. 3–15). Texas A&M University Press.
- Bylund, P.L. (2020). Finding the entrepreneur-promoter: A praxeological inquiry. *Quarterly Journal of Austrian Economics* 23(3–4): 355–89.
- Campbell, J., John, E., & Wormald, P. (1982). *The Anglo-Saxons*. Cornell University Press.
- Candela, R.A. & Geloso, V.J. (2020). The lighthouse debate and the dynamics of interventionism. *The Review of Austrian Economics*, 33(3), 289-314.
- Cantillon, R. (2010). *An essay on economic theory: An English translation of Richard Cantillon's Essai sur la nature du commerce en général*. (C. Saucier, Trans., M. Thornton, Ed.) Ludwig von Mises Institute. (Original work published 1755)
- Carliner, G. (1996). Comment on precedent and legal argument in the US trade policy: Do they matter to the political economy of the lumber dispute? In A. O. Krueger (Ed.), *The political economy of American trade policy* (pp. 288–290). Chicago University Press.
- City Plan Commission (CPC), 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>.

- Clark, G. 2008. *A farewell to alms*. Princeton University Press.
- Congleton, R. D. (2011). *Perfecting parliament: Constitutional reform, liberalism, and the rise of western democracy*. Cambridge University Press.
- Costinot, A., Lorenzoni, G., & Werning, I. (2014). A theory of capital controls as dynamic terms-of-trade manipulation. *Journal of Political Economy*, 122(1), 77–128.
- Dolan, M. (2009). To outfox the chicken tax, Ford strips its own vans. *The Wall Street Journal*. September 23, 2009.
- Dolley, M. (1976). The coins. In D. M. Wilson (Ed.), *The archaeology of Anglo-Saxon England* (pp. 349–372). Cambridge University Press.
- The Economist*. (2003). The softwood-lumber dispute: A simple lesson in economics. 30 January 30, 2003. Available at: <https://www.economist.com/the-americas/2003/01/30/a-simple-lesson-in-economics>.
- Federal Register. (2021, May 27). 86(101).
- Federal Trade Commission (FTC). (1939). *Report on motor vehicle industry*. United States Government Printing Office.
- Feenstra, R.C. (1994). New product varieties and the measurement of international prices. *The American Economic Review*, 84(1), 157-177.
- Feldman, E.J., Snarr, M.S., and Anwesen, J. (2020), Letter to Mr. Joseh Laroski, available at:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiG97WvnfH2AhXEtTEKHbV6AWAQFnoECAYQAQ&url=https%3A%3A>

2F%2Fenforcement.trade.gov%2Fsla2008%2Fcmt-2020-11-09%2Fcmt-CFIQ-11-09-20.pdf&usg=AOvVaw1SqNEex341WfTk6o2UHFjh. (accessed on 31 March 2022)

Ford, H., & Crowther, S. (1925). *My life and work*. Doubleday, Page.

Foss, N.J., & Klein, P.G. (2005). Entrepreneurship and the economic theory of the firm: Any gains from trade?" In R. Agarwal, S. A. Alvarez, & O. Sorenson (Eds.) *Handbook of Entrepreneurship Research, Vol. 2* (pp. 55–80). Springer.

Foss, N.J., & Klein, P.G. (2010). Alertness, action, and the antecedents of entrepreneurship. *Journal of Private Enterprise*, 25(2), 145–64.

Foss, N.J., & Klein, P.G. (2012). *Organizing entrepreneurial judgment: A new approach to the firm*. Cambridge University Press.

Fowke, J. (2021). *Letter to the honorable Katherine Tai, April 22, 2021*. Retrieved from <https://www.nahb.org/-/media/NAHB/advocacy/docs/top-priorities/lumber/ustr-lumber-letter-april-2021.pdf>

Frantzen, A.J. (1986). *King Alfred*. G.K. Hall & Co.

Grossman, G.M., & Helpman, E. (1992). Protection for sale. NBER Working Paper Series No. 4149. 10.3386/w4149.

Hamilton, B., & Whalley, J. (1983). Optimal tariff calculations in alternative trade models and some possible implications for current trading agreements. *Journal of International Economics*, 15, 323–348.

Hayek, F.A. (1945). The use of knowledge in society. *American Economic Review*, 35(4), 519–30.

- Hayek, F.A. (1948). *Individualism and economic order*. The University of Chicago Press.
- Hayek, F.A. (2002). Competition as a discovery procedure. *Quarterly Journal of Austrian Economics*, 5(3), 9–23.
- Helmke, G., & Levitsky, S. (2004). Informal institutions and comparative politics: A research agenda. *Perspectives on Politics*, 2(4), 725–740.
- Hodges, R. (1989). *The Anglo-Saxon achievement*. Gerald Duckworth & Co. Ltd.
- Holcombe, R.G. (1998). Entrepreneurship and economic growth. *The Quarterly Journal of Austrian Economics*, 1(2), 45–62.
- Hooker, C. (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(1), 47–53.
- Hoover, K., and Fergusson, I.F. (2018). Softwood lumber imports from Canada: Current issues. Congressional Research Service, [Library of Congress].
- Ikeda, S. (1997). *The dynamics of the mixed economy*. Routledge.
- Ikeda, S. (2004). The dynamics of interventionism. In P. Kurrild-Klitgaard (Ed.), *The Dynamics of Intervention: Regulation and Redistribution in the Mixed Economy (Advances in Austrian Economics, Vol. 8)* (pp. 21–57). Emerald Group Publishing. DOI: 10.1016/S1529-2134(2004)8
- Ikeda, S. (2015). Dynamics of interventionism, In P.J. Boettke & C. J. Coyne (Eds.), *The Oxford Handbook of Economics* (pp. 393–416). Oxford University Press.
- Ikenson, D. (2003). Ending the “Chicken War”: The case for abolishing the 25 percent truck tariff. CATO Institute: Trade Briefing Paper No. 17.

- Irwin, D. A. (1996). *Against the Tide: An intellectual history of free trade*. Princeton University Press.
- Irwin, D. A. (2017). *Clashing over commerce: A history of US trade policy*. The University of Chicago Press.
- Jenkins, Jr., H.W. (2018). Your pickup truck takes you for a ride: Trump's 'chicken tax' extension makes suckers out of U.S. truck buyers. *The Wall Street Journal*, <https://www.wsj.com/articles/your-pickup-truck-takes-you-for-a-ride-1522441887>.
- Jewish Historical Society of Michigan. (n.d.) *Matilda Rabinowitz*. Michigan Jewish History. <https://www.michjewishhistory.org/mwwmd/2017/12/matilda-rabinowitz.html>.
- Johnson, H.G. (1950–51). Optimum welfare and maximum revenue tariffs. *Review of Economic Studies*, 19(1), 28–35.
- Johnson, H.G. (1953–54). Optimum tariffs and retaliation. *Review of Economic Studies*, 21(2), 142–153.
- Johnson, N. & Koyama, M. (2014). Tax farming and the origins of state capacity in England and France. *Explorations in Economic History*, 51, 1-20.
- Johnson, N. & Koyama, M. (2017). States and economic growth: Capacity and constraints. *Explorations in Economic History*, 64, 1-20.
- Jones, S.R.H. (1993). Transaction costs, institutional change, and the emergence of a market economy in later Anglo-Saxon England. *Economic History Review*, XLVI (4), 658–678.

- Kaempfer W.H., Tower, E., & Willett, T.D. (2004). Trade protectionism. In C.K. Rowley & F. Schneider (Eds.), *The encyclopedia of public choice* (pp. 897–903). Springer.
- Kalt, J.P. (1988). The political economy of protectionism: Tariffs and retaliation in the timber industry. In R. Baldwin (Ed.), *Trade policy issues and empirical analysis* (pp. 339–68). Chicago University Press.
- Kalt, J.P. (1996). Precedent and legal argument in the US trade policy: Do they matter to the political economy of the lumber dispute? In A. O. Krueger (Ed.), *The political economy of American trade policy* (pp. 261–88). Chicago University Press.
- Kirzner, I.M. (1973). *Competition and entrepreneurship*. University of Chicago Press.
- Kirzner, I.M. (1982). Uncertainty, discovery, and human action: A study of the entrepreneurial profile in the Misesian system. In I. M. Kirzner (ed.), *Method, process, and Austrian economics: Essays in honor of Ludwig von Mises* (pp. 139–59). D. C. Heath.
- Kirzner, I.M. (1985). *Discovery and the capitalist process*. The University of Chicago Press.
- Kirzner, I.M. (1997). Entrepreneurial discovery and the competitive market process: An Austrian approach. *Journal of Economic Literature*, 35, 60–85.
- Kirzner, I.M. (1999). Creativity and/or alertness: A reconsideration of the Schumpeterian entrepreneur. *Review of Austrian Economics*, 11, 5–17.

- Kirzner, I.M. (2015). Entrepreneurship, economics, and economists. In P. J. Boettke & F. Sautet (Eds.), *Austrian subjectivism and the emergence of entrepreneurship theory* (pp. 139–50). Liberty Fund.
- Kiser, E. & Barzel, Y. (1991). The origins of democracy in England. *Rationality and Society*, 3(4), 396–422.
- Klein, P.G. (2008). Opportunity discovery, entrepreneurial action, and economic organization. *Strategic Entrepreneurship Journal*, 2, 175–90.
- Klepper, S. (2002). The capabilities of new firms and the evolution of the US automobile industry. *Industrial and Corporate Change*, 11(4), 645–66.
- Klug, T. (1989). Employers' Strategies in the Detroit Labor Market, 1900–1929. In S. Meyer & N. Lichtenstein (Eds.), *On the line: Essays in the history of auto work* (pp. 42–72). University of Illinois Press.
- Knight, F.H. (1921). *Risk, uncertainty, and profit*. Houghton Mifflin.
- Koyama, M., Moriguchi, C, & Sng, T-H. (2018). Geopolitics and Asia's little divergence: State building in China and Japan after 1850. *Journal of Economic Behavior and Organization*, 155, 178–204.
- Krueger, A.O. (1974). The political economy of the rent-seeking society. *The American Economic Review*, 64(3), 291–303.
- Krugman, P.R. (1980). Scale economies, product differentiation, and the pattern of trade, *The American Economic Review*, 70(5), 950–959.
- Krugman, P.R. (1987). Is free trade passé? *Economic Perspectives*, 1(2), 131–144.

- Kurrild-Klitgaard, P. & Svendsen, G. T. (2003). Rational bandits: Plunder, public goods, and the Vikings. *Public Choice*, 117, 255–272.
- Lacey, R. (1986). *Ford: The men and the machine*. Little, Brown and Company.
- Lagadec, G. (2014). Optimal endogenous tariffs with implicit campaign contributions. *Theoretical Economics Lectures*, 4, 296–304.
- Lavoie, D.C. (1982). The development of the Misesian theory of interventionism. In I.M. Kirzner (Ed.), *Method, process, and Austrian economics: Essays in honor of Ludwig von Mises* (pp. 169–183). D.C. Health and Company.
- Lavoie, D.C. (1985). *National economic planning: What is left?* Cato Institute.
- Lee, J. R. (1916). The so-called profit sharing system in the Ford plant. *The ANNALS of the American Academy of Political and Social Science*, 65(1), 297–310.
- Leeson, P. T. & Suarez, P. A. (2016). An economic analysis of Magna Carta. *International Review of Law and Economics*, 47, 40–46.
- Levin, S. M. (1927). Ford profit sharing, 1914–1920. *Personnel Journal [pre-1986]*, 6(1): 75–86.
- Loyn, H. (1971). Towns in late Anglo-Saxon England: The evidence and some possible lines of inquiry. In P. Clemoes & K. Hughes (Eds.), *England before the conquest: Studies in primary sources presented to Dorothy Whitelock* (pp. 115–128). Cambridge University Press.
- Ludema, R.D. & Mayda, A.M. (2013). Do terms of trade effects matter for trade agreements? Theory and evidence from WTO countries.” *The Quarterly Journal of Economics*, 128(4), 1837–1893.

- Maddicott, J. R. (1989). Trade, industry and the wealth of King Alfred. *Past & Present*, 123, 3–51.
- Markusen, J.R. & Wigle, R.M. (1989). Nash equilibrium tariffs for the United States and Canada: The roles of country size, scale economies, and capital mobility. *Journal of Political Economy*, 97(2), 368–386.
- McGuire, M.C. & Olson, M. (1996). The economics of autocracy and majority rule: The invisible hand and the use of force. *Journal of Economic Literature*, 34(1), 72–96.
- Metcalf, M.D. (1982). Anglo-Saxon Coins: Edgar’s Reform to the Conquest. In J. Campbell, E. John, & P. Wormald (Eds.), *The Anglo-Saxons* (204–5). Cornell University Press.
- Mezoughem, C. (2021). “Livestock and poultry: World markets and trade.” *World production, markets, and trade report, USDA: Foreign agricultural service*. Retrieved October 24, 2021, from <https://www.fas.usda.gov/data/livestock-and-poultry-world-markets-and-trade>.
- Meyer III, S. (1981). *The five dollar day: Labor management and social control in the Ford Motor company, 1908–1921*. State University of New York Press.
- Mises, L. v. (2012). *Economic calculation in the socialist commonwealth*. (S. Adler, Trans.) Mises Institute. (Original work published 1935)
- Mises, L. v. (1998). *Human action: A treatise on economics*. The Ludwig von Mises Institute. (Original work published 1949)
- Mises, L. v. (2011). *A critique of interventionism*. The Ludwig von Mises Institute. (Original work published 1929)

- Molyneaux, G. (2015). *The formation of the English kingdom in the tenth century*. Oxford: Oxford University Press.
- Munger, M.C. (2011). Self-interest and public interest: The motivations of political actors. *Critical Review*, 23(3), 339–57.
- NAHB. (2016, March 30). *NAHB forms coalition dedicated to free lumber trade*. NAHB now: The news blog of the national association of home builders. Retrieved October 22, 2021, from <https://nahbnow.com/2016/03/nahb-forms-coalition-dedicated-to-free-lumber-trade/>.
- Nevins, A. (1954). *Ford: The times, the man, the company*. Scribner.
- New York Times*. (1914a). Ford employee's wealth: Increase bank deposits by \$3,000,000 under profit-sharing plan. July 11, 1914.
- New York Times*. (1914b). Squalid homes banned by Ford. Apr. 19, 1914.
- North, D. (1981). *Structure and change in economic history*. W.W. Norton & Company.
- North, D. (1990). *Institutions, institutional change, and economic performance*. Cambridge University Press.
- North, D., Wallis, J., & Weingast, B. (2009). *Violence and social orders: A conceptual framework for interpreting recorded human history*. Cambridge University Press.
- North, D. & Weingast, B. (1989). Constitutions and commitment: The evolution of institutions governing public choice in seventeenth-century England. *Journal of Economic History*, 49, 803–832.
- O'Brien, P. (2011). The nature and historical evolution of an exceptional fiscal state and its possible significance for the precocious commercialization and

- industrialization of the British economy from Cromwell to Nelson. *The Economic History Review*, 64(2), 408–446.
- Olson, M. (1993). Dictatorship, democracy, and development. *American Political Science Review*, 87(3), 567–76.
- Online Library of Liberty (OLL). (2021). *Adam Smith on the need for “peace, easy taxes, and a tolerable administration of justice.”* Retrieved 25 February 2021, from <https://oll.libertyfund.org/quote/436>. (Original work published 1755)
- Open Secrets. (2020, December 15). Coalition for fair lumber imports. Open Secrets. Retrieved December 15, 2020, from <https://www.opensecrets.org/Lobby/clientsum.php?id=D000049396&year=2000>
- Ossa, R. (2014). Trade wars and trade talks with data. *American Economic Review*, 104(12), 4102-4146.
- Panagariya, A. (2019). *Free trade and prosperity: How openness helps developing countries grow richer and combat poverty*. Oxford University Press.
- Pincus, J.J. (1975). Pressure groups and the pattern of tariffs. *The Journal of Political Economy*, 83(4), 757–78.
- Porter, E. (2008). A chicken in every garage. *The New York Times*. <https://www.nytimes.com/2008/09/12/opinion/12fri4.html?searchResultPosition=1>
- Pratt, D. (2007). *The political thought of king Alfred the great*. Cambridge University Press.

- Proclamation on Adjusting Imports of Derivative Aluminum Articles and Derivative Steel Articles and Derivative Steel Articles into the United States*. (2020, January 24).
<https://www.whitehouse.gov/presidential-actions/proclamation-adjusting-imports-derivative-aluminum-articles-derivative-steel-articles-united-states/>
- Rae, J.B. (1965). *The American automobile: A brief history*. University of Chicago Press.
- Raff, D.M.G. (1988). Wage determination and the five-dollar day at Ford. *Journal of Economic History*, 48(2), 387–99.
- Raff, D.M.G. & Summers, L.H. (1987). Did Henry Ford pay efficiency wages? *Journal of Labor Economics*, 5(4, Part 2), S57–86.
- Rothbard, M.N. (2006). *Power and market: Government and the economy*. Ludwig von Mises Institute, fourth edition. (Original work published 1970)
- Salerno, J.T. (2008). The entrepreneur: Real and imagined.” *Quarterly Journal of Austrian Economics*, 11, 188–207.
- Schumpeter, J.A. (1961). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Harvard University Press.
 (Original work published 1934)
- Schumpeter, J.A. (2010). *Capitalism, socialism, and democracy*. Routledge. ProQuest Ebook Central. (Original work published 1942)
- Selgin, G. & Taylor, J. (1999). By our bootstraps: Origins and effects of the high-wage doctrine and the minimum wage. *Journal of Labor Research*, 20, 447–62.
- Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, 11(4), 448–69.

- Shane, S. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus*. Edward Elgar.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217–26.
- Slichter, S.H. (1921). *Turnover of factory labor*. D. Appleton.
- Smith, A. (1981). *An inquiry into the nature and causes of the wealth of nations*. Liberty Fund, Inc. (Original work published 1776)
- Softwood lumber recent developments. (2020, December 15) Retrieved December 15, 2020, from https://www.international.gc.ca/controls-controles/softwood-bois_oeuvre/recent.aspx?lang=eng
- Statement. (2016, October 12). Retrieved October 24, 2021, from <https://www.canada.ca/en/global-affairs/news/2016/10/statement-canada-united-states-softwood-lumber.html>.
- Statement. (2020, November 24). Retrieved October 24, 2021, from <https://www.canada.ca/en/global-affairs/news/2020/11/statement-by-minister-ng-about-us-duties-on-canadian-softwood-lumber.html>
- Stewart, I. (1988). English coinage from Athelstan to Edgar. *The Numismatic Chronicle*, 14, 192–214.
- Talbot, R.B. (1978). *The chicken war: An international trade conflict between the United States and the European Economic Community, 1961–64*. Iowa State University Press.
- Tombs, R. (2015). *The English and their history*. Alfred A. Knopf.

- Tullock, G. (1967). The welfare costs of tariffs, monopoly, and theft. *Western Economic Journal*, 5(3), 224–32.
- Tullock, G. (1987). *Autocracy*. Martinus Nijhoff Publishers.
- Vahabi, M. (2020). Introduction: A symposium on the predatory state. *Public Choice*, 182, 233–42.
- Venkataraman, S. (1997). The distinctive domain of entrepreneurship research. *Advances in Entrepreneurship, Firm Emergence and Growth*, 3, 119–38.
- Vieira, P. (2020). World Trade Organization sides with Canada in lumber dispute with US. *The Wall Street Journal*. <https://www.wsj.com/articles/world-trade-organization-sides-with-canada-in-lumber-dispute-with-u-s-11598294456>
- Wormald, P. (1999). *The making of English law: King Alfred to the twelfth century*. Blackwell Publishing.
- Yorke, B. (1990). *Kings and kingdoms of early Anglo-Saxon England*. Routledge.
- Zhang, D. (2007). *The softwood lumber war: Politics, economics, and the long US – Canada trade dispute*. Resources for the Future.
- Zunz, O. (1982). *The changing face of inequality: Urbanization, industrial development, and immigrants in Detroit, 1880–1920*. University of Chicago Press.

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