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SCHUMPETER PROJECT ON COMPETITION POLICY

Rethinking Antitrust: The Case for Dynamic Competition Policy

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Antitrust policy relies too heavily on static models that focus on prices and market shares while treating innovation as external. A dynamic approach that views competition as a process of innovation is better suited to guiding policy in today's technology-driven economy.

KEY TAKEAWAYS

- Static models treat competition as equilibrium, judging markets mainly by prices and market shares. This overlooks innovation and leads to flawed conclusions about long-term welfare.
- Dynamic competition sees rivalry as an ongoing process of innovation and adaptation. It better captures how firms invest and compete in modern, fast-changing markets.
- Hayek viewed competition as a discovery process wherein entrepreneurs test ideas and prices guide coordination. This constant search fuels efficiency and adaptation.
- Schumpeter highlighted creative destruction, in which new products and methods displace the old. Innovation—even by large firms—drives growth and renewal.
- High profits and market concentration reflect success at innovating and scaling, not anticompetitive harm. In dynamic markets, size can support greater investment and R&D.
- Antitrust should assess whether firms innovate and reinvest, not just whether they are big or profitable. A dynamic lens ensures that policy supports growth and progress.

CONTENTS

INTRODUCTION

It has long been noted that antitrust law depends on economics probably more than any other branch of the law does.[1] This has become known as the "economic construction" of antitrust law.[2] Today, proposals abound for rethinking the interaction between economics and antitrust law given that the "Chicago/Harvard" approach, which relied chiefly on static neoclassical analysis, has come under fire in the academic literature, as well as in public discussion.[3] Antitrust enforcers that rose to prominence under the Biden administration attempted to move away from the old consensus by aggressively pursuing a Neo-Brandeisian agenda, which, at a foundational level, elevated political concerns over economic ones.[4] Enforcement under this agenda underperformed on critical measures and left antitrust institutions in a greater state of frailty.[5]

Enforcers in the second Trump administration, while different, appear as though they will maintain some of the components of this Neo-Brandeisian approach, particularly its concern with the economic and political power of large technology companies.[6] However, they are also concerned with static approaches to enforcement that treat price and quantity as the only dimensions in which competition takes place, leaving the door open for new paradigms and standards for antitrust.[7] The Trump administration's America First antitrust program will likely fail to change enforcement in a positive way if it continues to pursue a "big is bad" approach that has misguided the Neo-Brandeisians. Large firm size is principally a response to market factors such as new technology that make increasing returns to scale possible. Large firms also are in many cases more successful at serving consumer needs due to the lower costs of scale and the presence of demand-side network effects that increase user benefits from a smaller number of larger platforms. Meanwhile, large firms' scale is conducive to driving a virtuous cycle of new investment in innovation.[8]

In this context, there is a clear need for a new way to think about competition in the disruptive economy that exists today—a policy model that fully accounts for market dynamics and innovation. Indeed, others have called for new standards that examine how conduct under scrutiny affects the *process* of economic competition.[9] Incorporating a process view of competition will require taking seriously economic theories that reduce the importance of static equilibrium concepts and elevate the importance of human action, such as entrepreneurship. This will aid in considering the different dimensions of competition. Particularly in the technology sector, competition often occurs along the dimension of innovation as opposed to the price competition that has long been the dominant focus of mainstream antitrust analysis. In these technology and innovation-driven industries, firms compete for, rather than within, the market in sequential innovation races.[10]

Hayek and Schumpeter are two 20th century economists who criticized static models and favored a dynamic process view of how economic competition works. They both provide useful frameworks for how to think about competition today, particularly in rapidly changing digital markets. This report provides a comparison of their views on competition and argues that they can be woven together to build a better economic foundation for antitrust law and enforcement. This foundation shares significant similarities with the former Chicago/Harvard consumer welfare approach to antitrust policy, but with a much greater emphasis on the dynamic process of innovation competition as a supplement to static welfare analysis.

Antitrust policy today is in crisis. Political concerns that often conflict with economic ones have come to the fore, and enforcement is still out of step with market realities for innovation-driven industries. Against that backdrop, this report seeks to provide an understanding of how the dynamic competition framework responds to the current antitrust crisis by adding a process view that enforcers can use in addition to static competition models. It grounds dynamic competition in the theory of important economists such as Schumpeter and Hayek, which helps demonstrate that the approach has not been developed in service of special interest groups, but rather has been developed over decades. Yet, it has not been made operational for policy. Economists, lawyers, and practitioners are beginning to develop practical guides for competition policy that rely on this framework, which is especially important for modern technology sectors that are experiencing rapid change through continuous disruptive innovation.[11] This report seeks to aid in that pursuit, proceeding in five sections:

- The first section generally reviews the difference between static and dynamic models of competition, and why a dynamic competition approach should form the cornerstone of competition policy. Importantly, the growing literature on dynamic competition uses "dynamic" to refer to models that not only incorporate competition over time, but also treat economic competition as a *process* that does not necessarily resolve toward an equilibrium.
- The second section discusses Hayek's specific theory of competition as a dynamic discovery procedure. It explains how Hayek attempted to fill the gap in understanding real-world competitive conduct left unexplained by the static, perfectly competitive model. The section includes a discussion of the role of market structure and the importance of markets in solving the economic calculation problem.
- The third section provides a similar discussion of Schumpeterian competition, with emphasis on how innovation and "creative destruction" form the essential driving force of the market system. It emphasizes how Schumpeter sees innovation as driven by large firms and the important spirit of entrepreneurship that propels economic growth.
- The fourth section offers a comparative study of the insights about market competition provided by Hayek and Schumpeter and highlights how they complement one another in ways useful to competition policy. By adding the dimension of competition through innovation, Schumpeter augments the Hayekian approach to help understand rapidly changing markets.
- The fifth section provides a nonexhaustive list of some of the practical implications of the dynamic competition approach for antitrust and competition policy.

STATIC VS. DYNAMIC COMPETITION

The first step in analyzing market competition as a dynamic process is to distinguish between "static" and "dynamic" competition. These two terms have their basis in the economic literature, which distinguishes between static and dynamic economic models. The static approach to competition treats technology and innovation as constant and examines the outcomes of business practices on indicators of welfare, such as prices and consumer surplus.[12] In general, static models examine behavior and the equilibrium outcomes of that behavior from a particular point in time. Dynamic models, by contrast, seek to show how changes in circumstances can

affect economic outcomes over multiple periods or stages. A fully dynamic approach that incorporates the vision of Hayek and Schumpeter views competition as a *process*: innovation and technological change are essential and endogenous aspects of competition in many markets, and treating them as constant will lead to an inaccurate picture of competition in the modern innovation economy.

Static Models and Static Competition

Static models tend to focus on the concept of equilibrium, meaning a point that the economy tends toward given assumptions about human behavior and technological possibilities.[13] In static models, all variables are stationary until change is caused by uncontrollable forces outside the model. This causes the variables inside the model to adjust. These models allow us to make predictions about what will happen to prices and output in the face of exogenous changes, such as a natural disaster or technological improvement. For instance, if a natural disaster reduces the supply of oranges in Florida, then high-value orange consumers will have to bid up the price. However, it leaves the process of change unexamined and simply assumed, focusing instead on the ultimate equilibrium outcome. In other words, in the static model, nothing will change unless there is some exogenous force that compels allocations to change, such as innovation and technological improvement.

Static models can also be used to compare differences in one end state from another, referred to in economics as "comparative statics." This method of analysis is best used to examine the results of what happens before and after an intervention, but the comparison is between different static end states. Therefore, examining changes over a long period of time—although "dynamic" in the sense of analyzing outcomes over time—is also qualitatively a static exercise from the point of view of the dynamic competition approach. For example, an empirical difference-in-differences approach to examining competitive conduct, such as a merger, looks at changes in variables before and after a specific event to gauge the effect of an intervention. This is essentially static, because the emphasis is on the resulting outcomes, not on the process of competition. In sum, "dynamic" models that incorporate time can still be "static," meaning the key focus is on equilibrium rather than process.

Static competition occurs when firms compete on the basis of existing technologies, by cutting costs and otherwise competing on the margins. For instance, under a static competition framework, an incumbent firm's behavior might be observed when an entrant is considering entering an existing product market in which the incumbent operates. If the incumbent earns high profits for an extended period of time without entry of new firms into the market, it may be a worrisome sign that market failure or anticompetitive conduct is occurring according to the static approach. The model of perfect competition, for instance, is a well-known example of a static model that assumes that all sellers have access to the same production technologies and that they supply goods that are homogenous. In this model, high profits and prices above costs should be reduced by the entry of rivals into the market.[14] High market shares and levels of concentration are taken to mean that competition has failed.

Dynamic Models and Dynamic Competition

Many models expand on static analysis by incorporating multiple stages of decision-making or periods of adjustment into the models. As noted, the focus in these models is typically still on the equilibrium that the economy will approach over time. Most importantly, these models still

treat innovation as exogenous, meaning they fail to account for innovation as an essential component of market competition. Thus, the use of dynamic models that analyze long-term equilibrium outcomes can still be lumped into the "static" approach to competition. Dynamic economic models that focus on equilibrium rather than process are not examples of the dynamic competition paradigm. A true dynamic approach to competition advocated by scholars such as Hayek and Schumpeter goes further by treating competition as a process. The meaning of "process" is that change is not exogenous. Economic change is the main event to be studied rather than the equilibrium that the economy shifts toward in the face of an exogenous change. Therefore, the term "dynamic," as it is used in the dynamic competition paradigm, refers to analysis that, more than analyzing behavior over time, also grapples with the *process* of economic change itself.[15]

The dynamic approach to competition recognizes that constant change is inherent in market economies and that this means an emphasis on equilibrium, a point of stasis, is not comprehensive for understanding the actual behavior of firms.[16]

Some real-world examples that embody the basic theory of dynamic competition are the following:

- Amazon spent significant resources to develop the Kindle e-reader, even though its core business at the time revolved around selling books.[17] A significant quote from a former Amazon executive was that it is "better to cannibalize yourself than have someone else do it."[18]
- Kodak, once thought of as a monopolist, is an obsolete company that refused to invest in innovating because it was afraid of cannibalizing its own profitable lines of business.[19]
- Firms such as Apple, Samsung, and Google continually invest in developing and launching improved devices, such as smartphones, for fear that a rival will take advantage of continuous improvements in technologies to release devices that will make them obsolete.
- Google incorporates AI into its search service, given the propensity of many adopters to prefer AI tools for search services rather than traditional search engines.[20]
- Nvidia's invests over the course of decades to transition from a computer graphics chip company to a supplier of advance processors to fuel the current wave of AI.[21]

These examples provide some intuition about dynamic competition. It means competing by innovating and continuously improving to stay ahead of rivals through creative destruction, often of a firm's own products. Under the framework of dynamic competition, many business practices that seem inscrutable or even monopolistic are seen through a new lens as competition on another dimension: innovation. Innovation industries are characterized by rapidly advancing technology, and it can take large amounts of effort and research and development (R&D) to incorporate new advancements into existing products and create new products and services.[22] And yet, the marginal costs of production or providing another unit of service to a user are often zero. In other words, firms in innovation industries often have enormous fixed costs and low or zero marginal costs.[23] When marginal cost is zero, average costs decrease as output increases. For digital platforms, this can be combined with demand-side network effects, meaning users

benefit from a service the more other people use it.[24] Because of this, firms in innovation industries are often uniquely positioned to take advantage of economies of scale.[25]

Firms have to react and adapt to continuously changing circumstances in order to survive. Dynamic competition emphasizes the introduction of new opportunities to the market via new methods of production and new products as the essence of how firms compete in a capitalist economy.[26] It takes increasing economic welfare as the ultimate normative goal of policy, and innovation—the invention of productivity-enhancing technologies and their diffusion throughout the economy—as the ultimate driver of welfare and economic growth over time.[27] The dynamic competition paradigm adds a new criterium to the practical analysis of monopoly. If a firm has high profits and market share for an extended period of time *and* further fails to innovate and compete dynamically and is still insulated from entry or innovation by other firms, then that firm may qualify as a monopolist and should be investigated for anticompetitive conduct.[28]

HAYEK'S MODEL OF DYNAMIC COMPETITION

One model for understanding dynamic competition can be found in the work of F.A. Hayek. Hayek viewed competition as taking place in a world of uncertainty and incomplete information. The key to understanding the success of the market in fostering economic growth is its role in coordinating the myriad activities of market participants who have set out to achieve only their own ends. Hayek's answer was that the ever-changing system of prices in a market economy achieved this coordination in a spontaneous fashion. Market competition acts as a procedure for discovering the prices that will best coordinate social plans. While Hayek was inspired by Adam Smith's "invisible hand," he did not rely on Smith's "static" economic reasoning.[29] Rather, Hayek viewed the market as a process of competition wherein buyers and sellers continuously discover the opportunities presented by the market given underlying supply and demand conditions and continuously changing consumer wants, desires, and needs.

Competition as a Discovery Procedure

From the perspective of Hayek, static equilibrium models are unsatisfactory for an understanding of much economic activity because the large industrial economies economists are trying to understand experience constant change. This observable fact about the economy means that models that assume an unchanging world are unlikely to be helpful: one can't understand change if it is assumed not to exist. The more important role of economics is to explain the process by which this equilibrium is brought about.[30] For Hayekians, society's principal economic problem is how knowledge is shared throughout the economy, making it possible for the myriad producers and consumers to coordinate their plans in a world of finite resources that is constantly changing. In other words, because markets are dynamic, the underlying data of the markets is always changing, and never simply "given."[31] In a fundamental sense, this constant change is the reason markets exist in the first place.[32] Hayek pointed to the price system as the mechanism that achieves this social coordination by communicating to individuals how they must adjust their economic activity in response to changes in underlying economic conditions.[33] However, prices themselves are not simply set, but rather are the result of the competitive process itself.[34] The competitive process establishes prices, which in turn help solve the knowledge problem by communicating underlying economic conditions to market participants. This is why Hayek referred to competition as a "discovery procedure."[35] This is in contrast, of

course, to static competition model assumptions that prices are given parameters that individuals must adjust themselves to and thus, in a way, assumes away the knowledge problem.[36]

Hayek's meaning of "competition" is therefore very different from that of the static approach. In fact, he viewed the model of perfect competition as requiring the complete absence of the kinds of competition—lowering prices, advertising, etc.—that we constantly see in the real world.[37] This kind of competition is the very process by which producers discover what consumers value the most and which productive methods work best to serve them.[38] In the static case, no producer is capable of setting a price above the cost of production. Hayek recognized that this is seldom the case in real markets, and, even if it were, the perfectly competitive state of affairs may not be desirable.

Changing Market Structure Is Part of the Discovery Process

Hayek's conception of competition is generally viewed as decentralized. The fact that the knowledge needed to coordinate economic activity is dispersed throughout the various individuals in the economy means individuals and firms with unique knowledge of their local surroundings are more capable of harmonizing social plans through the use of market prices than a centralized planning board could be.[39] This, as well as the appearance of Hayek's price system to be a decentralized ideal has caused some to claim that Hayek would advocate for an active deconcentration antitrust policy.[40] However, this is a flawed interpretation. The nature of the knowledge problem implies that policymakers cannot know a priori what levels of concentration are appropriate for a given industry.[41] This is part of what the process of competition has to figure out.

Hayek's view of competition as a discovery procedure in which market participants create market prices through the process of exchange suggests that different market structures could be one method by which efficient production is discovered. If we knew what levels of concentration were appropriate, there would be no need to allow the market to experiment with mergers at all. In his essay "The Meaning of Competition," Hayek asserted that this in fact cannot be known and that the type of organization that will serve the needs of consumers in the best manner is determined by the process of competition.[42] Hayek went on to explain this view even more explicitly in *Law, Legislation, and Liberty*: "The most effective size of the individual firm is as much one of the unknowns to be discovered by the market process as the prices, quantities or qualities of the goods to be produced and sold."[43]

Market structure is not an exogenous fact to be taken as given in the analysis of competition and market performance. Structure is one of the subjects of economic analysis itself that economists should attempt to explain. Some markets may evolve to become more concentrated over time, and concentration may wax and wane. This is a process that is not well understood within theories that focus on equilibrium outcomes.

Entrepreneurs Navigate Disequilibrium

If market economies constantly change, they do so because of the actions of individuals, namely entrepreneurs. Israel Kirzner extended Hayek's discussion of the knowledge problem and competition as an economic process by outlining an economic conception of the role of the entrepreneur.[44] It is the entrepreneur who engages in the process of pushing prices closer to a point of equilibrium. Everyone can be an entrepreneur, the distinguishing characteristic of which

is an alertness to opportunities for profit.[45] It is this activity that moves the economy closer to equilibrium. Due to constant change, the economy is always in a state of disequilibrium, and entrepreneurs compete in the process of discovering the various production methods and exchange opportunities that will move the market toward equilibrium. The market is imperfect, but the nature of the market and entrepreneurial activity is that this imperfection implies profit opportunities, the exploitation of which pushes the economy closer toward equilibrium outcomes.[46]

For Hayek, the institutional context in which individual action occurs is paramount. Rules and norms circumscribe and guide individual actions that affect the overall order or pattern that results from that behavior. This includes entrepreneurs, whose actions are a product of their institutional environment. Entrepreneurial action is not the result of certain social values or ideas, but rather the response of individuals responding to the market incentives provided by their local surroundings and social rules that govern their environment. Entrepreneurs act on their perception of profit opportunities but are constrained by norms and rules of just conduct.

SCHUMPETERIAN COMPETITION

The Schumpeterian notion of competition represents, in a way, an even more dynamic approach than Hayek's. That is, Schumpeterian competition, while not only compatible with the dynamic competitive process discussed by Hayek, goes farther in establishing innovation, and the process of creative destruction, as the driver of economic change and growth. Innovation and creative destruction, not price discovery, typify the nature of the competitive process. Schumpeter made the connection between innovation and economic growth in *Capitalism, Socialism, and Democracy* in 1942.[47] Yet, seminal articles on economic growth left technological improvement as an exogenous variable, unexplainable by their models for decades thereafter.[48] Incorporating innovation as an endogenous variable has become an increasingly important research program since the late 20th century.[49] Schumpeter also noted that it was these large enterprises that tended to innovate the most and thus drive long run growth.[50]

Innovation Competition and Creative Destruction

Schumpeter was frustrated with the use of the model of perfect competition as a benchmark because it assumes away the essential nature of actual competition in market economies. By introducing the concept of creative destruction, Schumpeter refuted the successive attacks on market efficiency that arose in the 20th century. Adam Smith's competitive system showed that self-interested individuals, guided by the institutions of private property and voluntary exchange, would promote social welfare as a byproduct of their own profit-seeking behavior. Formalizing the perfectly competitive model mathematically, economists such as Alfred Marshall showed that this is theoretically true, but only under certain restrictive assumptions. Economists in the 20th century then called into question the efficiency of markets by creating new models where these assumptions no longer held. For example, if a firm has higher-than-average profit levels, it is likely due to lessened competition and inefficiency in comparison with perfect competition. Contra Smith, profits are no longer socially beneficial, but exploitative.

With creative destruction, Schumpeter sweeps away the relevance of the perfect competition model for appraising the performance of capitalism. Creative destruction, the "essential fact" of capitalism, is caused by the introduction of entirely new forms of competition, such as new products and new production processes. This kind of competition "strikes not at the margins" of

incumbents' profits and market shares, but rather "at their foundations and their very lives."[51] Firms that successfully engage in creative destruction can earn outsize profits for a time due to the fact they introduced something new to the market. This is *dynamically* efficient because it increases economic growth. The ability to set prices above costs is no longer seen as a failure of the market system to promote welfare, but in fact a principal driver of it. Schumpeter thus restored the beneficial role of profits by noting that they are what enable firms to invest in R&D and to ensure sufficient incentives to innovate.[52] When competition is viewed as a process, high profits once again have the potential to be welfare enhancing by increasing the rate of innovation and rewarding entrepreneurial risk taking.

Market Structure and Incentives to Innovate

A prominent debate in competition economics and antitrust has centered on whether firms that face more competition or have more market power have greater incentives to innovate. On the one hand, Kenneth Arrow developed his "replacement effect" theory, which finds that firms closer-facing competitive conditions have greater innovation incentives.[53] Schumpeter is often read as arguing that firms with greater market power will innovate more, since they can appropriate the gains from this innovation given their insulated market position. Indeed, firms may not enter a market at all if profits are not appropriable. Schumpeter thus improves upon Smith to show that market power actually drives long-run dynamic efficiency, which increases growth and social welfare. Although much work has focused on this "Arrow-Schumpeter" debate about what market structures are most conducive to innovation, the most fundamental insight from Schumpeter about market structure is the fact that large firms that take advantage of scale are not evidence that competition is absent, but rather just the opposite. It is not only that firms with market power can have greater incentives to innovate, but also that innovation can be the very cause of both greater market concentration and greater economic welfare at the same time. David Teece has noted that "innovation drives competition as assuredly as competition drives innovation."[54] Often, what seem to be monopolistic practices (i.e., practices that seem to restrict output at the expense of consumers) help finance new investment.[55]

Empirical evidence points toward an "inverted U"-shaped curve whereby concentrated industries engage in more innovation but start to engage in less as they come closer to monopoly status.[56] Many other studies have looked into the empirical evidence of whether firms with more market power invest more significantly in R&D.[57] According to recent research on dominant "Big Tech" platforms, it does seem to be the case that these firms invest in R&D at a greater pace relative to other firms.[58] From the viewpoint of creative destruction, firms compete dynamically by introducing new products and processes that threaten the viability of established business models. But it is also important to note that innovation also occurs when incumbents improve on existing products. Innovating through enhancing quality or new variety is a large driver of economic growth, as recent research shows.[59]

Schumpeter's Heroic Spirit of Entrepreneurship

Rather than being purely economic, profit-maximizing actors, entrepreneurs for Schumpeter are an elite group driven by a heroic entrepreneurial spirit.[60] For Schumpeter, entrepreneurs engage in the investment and discovery of new commodities and production methods, opening new markets, and finding new sources of supply.[61] Schumpeter's connection of large capitalist enterprises as a primary source of innovation and, in turn, his connection with innovation as a primary driver of increased average standards of living, led him to view the entrepreneur as a

character of primary importance in the market system. The entrepreneur's role is not simply efficient or profit-maximizing, but heroic.[62] By pursuing the spectacular rewards that the market offers successful innovators, capitalist managers drive new forms of competition and economic growth.[63]

Although Schumpeter's conception of creative destruction and the connection of innovation with economic growth helped save the analysis of the private enterprise system, he also analyzed the capitalist system from many points of view besides the purely economic, including the historical, managerial, and philosophical. For instance, his economic analysis of dynamic competition influenced his analysis of the morality of economic growth, as can be seen by his claim that, "The capitalist achievement does not typically consist in providing more silk stockings for queens but in bringing them within the reach of factory girls in return for steadily decreasing amounts of effort."[64] However, it also influenced Schumpeter's thinking on the long-run viability of capitalism. He saw in it the seeds of its own destruction emanating from an elite managerial class that, once vibrant, innovative, and full of entrepreneurial spirit, becomes decadent and bureaucratic, undermining the very values necessary to keep the system going.[65]

COMPARATIVE ANALYSIS

Innovation and Price as Different Dimensions of Competition

Like Hayek, Schumpeter viewed competition as taking place in a world of constant economic change, but he conceived the nature of this change differently. He agreed that "capitalism … never can be stationary," but averred that "the fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates."[66] Therefore, he argued that the source of change is not only the underlying data of the market that manifest in market prices, as emphasized by Hayek, but also the introduction of new forms of competition by capitalist enterprises. In other words, as opposed to Hayek's price-centric conception of competition, the core dimensionality of competition for Schumpeter was *innovation*.

For Hayek, competition was only desirable because we do not know who will produce most efficiently or innovate more. It would make little sense to allow competition between various producers if these outcomes were predetermined and in fact would be wasteful.[67] Schumpeter corroborated this in his discussion of competition through innovation. The market is continuously disrupted and thrown into disequilibrium by the introduction of altogether new methods of serving consumers.[68] For both thinkers, capitalism—economic competition under the institutions of private property—increases economic growth by rewarding producers who discover new business models that increase social welfare. Yet, a fundamental difference that creates tension between them on dynamic competition is their views on the "knowledge problem"—on the possibility of centrally planning economic activity in the absence of market prices. While Hayek took the view that socialist central planning was theoretically impossible due to the dispersed nature of the knowledge required to make rational economic decisions, Schumpeter believed such planning was not impossible, but would result in an economic system that no longer permits large profits and rewards for innovation. Thus, planning portends stagnation.

The Irrelevance of Perfect Competition Model for Understanding Capitalist Performance

Hayek and Schumpeter were both frustrated by economists' reliance on the model of perfect competition, and both dismantled the case for using it as a standard for the performance of capitalist enterprise. Contrary to perfect competition, large market shares and persistently high profit levels are not prima facie evidence of harm to competition. In fact, they are likely to be just the opposite when dynamically competitive forces are present. Examining the exact structure of an industry is unimportant, or at least of secondary importance for both Schumpeter and Hayek. From the standpoint of both thinkers, competition policy that worries strictly about concentration is apt to reduce efficiency and innovation. New large, integrated forms of economic organization that can exploit technology in order to succeed before unattainable economies of scale are part of the process of discovering the methods of competition that best serve customers and boost productivity. Furthermore, it is these market structures that are apt to engage in growth-enhancing innovation and challenge one another. They are therefore seen as not only unproblematic in a world of imperfect information but also a positive force for progress concerning long-term growth.

Their differing views on the knowledge problem may partially account for Schumpeter's sanguine outlook about the capabilities of large enterprises to plan economic activity. Hayek viewed the potential of planning by any entity as necessarily limited by the knowledge problem and feared the misallocation of monopoly even though he viewed such misallocation as primarily the creation of government restrictions and intervention. However, neither placed an efficiency limit on how large an enterprise can become. In fact, Hayek asserted that bigness can be the most effective challenge to incumbent monopoly.

> It may well be that, say, in the electrical industry of one country, no other corporation has the strength or the staying power to "take on" an established giant intent upon defending its de facto monopoly of some of the products. But as the development of the great automobile or chemical concerns in the USA shows, they have no compunction about encroaching on such fields in which the backing of large resources is essential to make the prospects of entry promising. Size has thus become the most effective antidote to the power of size.[69]

This adds another layer to Schumpeterian competition. Not only do larger firms have greater incentives to innovate, but scale is required to encroach on the territory of other established giants as well. The potential of entry of a large firm not currently in the field can keep apparent monopolies in check and push them to continue innovating. Furthermore, competition through the introduction of new products or methods of production is essential when technology is changing, leaving the door open for competitors to "leapfrog" incumbents.[70] In this environment, firms that wish to have a lasting presence must often make their own profitable products or services obsolete by innovating, or risk losing ground to rivals.

Comparison of the Role of the Entrepreneur

The departure on the knowledge problem influences differing views on the role of the entrepreneur. For instance, during periods of waning creative destruction, Schumpeter had no problem in believing that the economy moved back in the direction of perfect competition. Kirzner believes the success of new innovations proves that the market was before in

disequilibrium, and that innovative entrepreneurs are alert to these profit opportunities. Kirzner's entrepreneurship is stripped down to the concept of "alertness." Entrepreneurs are alert to profit opportunities and capitalize on them. For Schumpeter, alertness wasn't enough. Entrepreneurs innovate and engage in creative destruction. For Hayek and Kirzner, the institutions of the market and the price system drive entrepreneurs to exploit profit opportunities and innovate, but Schumpeter's more romantic vision of entrepreneurship led him to believe that successful large firms would lose their edge and bring about the downfall of the very system that had enriched them.

Hayek's entrepreneur as an alert arbitrageur responding to incentives provided by the market that are unseen by others contrasts with the heroic entrepreneur of Schumpeter. Hayek's entrepreneur responds to the rules and norms of just conduct set forth by social and political institutions, but Schumpeter's entrepreneur works outside of them as a creative hero. Schumpeter believed that economic growth spurred by capitalism would routinize innovation and obviate the function of the heroic entrepreneur, thereby eroding the values requisite for maintaining the capitalist system itself. Hayek's vision of entrepreneurship was more purely economic and left the role of moral values as part of the set of social institutions that determine entrepreneurial discovery.

Both theories together provide a more enlightened conception of economic competition as a dynamic process. Some economists are developing metrics, such as measures of reallocation and dynamism, and new models that are consistent with both conceptions of the entrepreneur.[71] While the entrepreneur of Kirzner and Hayek is an equilibrating force in a world of disequilibrium, Schumpeter's entrepreneur is a disequilibrating force disrupting current trends toward equilibrium through disruptive innovation. Kirzner's entrepreneur exploits the opportunities in disequilibrium to move prices further toward what an equilibrium state would achieve, thereby increasing allocative efficiency. Schumpeterian entrepreneurs continually throw the economy into disequilibrium by introducing new innovations into the market.

SUMMARY AND IMPLICATIONS

While this report is not intended to cover all important implications of dynamic competition for antitrust enforcement and competition policy, some implications that have been made clear are listed ahead.

Competition Is a Dynamic Process

Competition in the modern American economy is a dynamic process. Static models of competition evaluate economic outcomes from a single point in time and depict a world in which rivalry is absent. The static approach to competition is more relevant to industries that are stagnant, that grow very little, or in which competitors have few dynamic capabilities. The more an industry is characterized by innovation competition, the more salient a dynamic approach to competition becomes. Using a static model, persistently high profits are a troublesome sign of extraction from consumers. Under the dynamic approach, such profits are the returns from innovation that in turn allow firms to continue to innovate through investment and R&D. The dynamic process approach accepts that entrepreneurs operate in a world of fundamental uncertainty, which implies that market positions are always tenuous. This uncertainty is the reason market competition is beneficial to consumers, because it allows the market to assign greater rewards to the producers that emerge to serve consumer needs and desires most effectively. While the Chicago school approach focused too heavily on equilibrium outcomes, the

modern Neo-Brandeisian movement focuses too much on concentration as a superficial indicator of market power. Dynamic competition sees neither equilibrium nor concentration as dispositive, but views conduct in the context of the process of market competition over time and its effects on incentives to innovate.

The Process Is Defined by Innovation

In markets where innovation is a persistent factor, it should be recognized that potential competition disciplines incumbents, even if they are large, dominant firms. Large firms must balance the advantages of scale with the need to stay nimble enough to innovate and adapt to new technological advances. Otherwise, more nimble competitors in the wings will leapfrog these incumbents by creating new products that make the old obsolete. Leapfrogging occurs when new innovators, rather than competing on the margins with established firms, introduce new products and services that make incumbents obsolete. A concrete example would be the dangers posed to Google, an established firm in online general search, by the introduction of large language models by firms such as OpenAI and Anthropic. Due to its previous successes innovating, it can try to adapt and introduce new AI tools into its existing products and otherwise attempt to adapt to the changing landscape and avoid being leapfrogged by these smaller rivals.

Larger Firms Are Part of a Vibrant Innovation Ecosystem

Bigness is not necessarily harmful. On the contrary, the scale of large enterprises enables mass production and lower costs to consumers. This is particularly prevalent in innovation industries, where network effects and scale economies are often present.[72] More importantly, larger firms have the capabilities and incentives to engage in an outsize amount of R&D spending and are more likely to innovate and drive economic growth, both through incremental innovation as well as the process of creative destruction.[73] Successful firms that have been content to rest on their laurels and refrain from investing in new technologies for fear of cannibalizing their existing products have been overtaken by other firms. Creative destruction provides a built-in incentive for large firms to continue innovating. Moreover, large firms present the biggest competitive challenges to one another, as scale is required to challenge firms with a dominant position in an innovation industry.[74]

Mergers that increase concentration can be an entrepreneurial method of better serving customers and cutting costs by combining resources, technical know-how, and intangible assets. Even though mergers and concentration in general reduce the number of rivals in a market, the gains to welfare and innovation can outweigh the lost competition. Structural presumptions in merger enforcement are likely to reduce economic efficiency and innovation. In fact, enforcers should be more willing to view blocking a merger as blocking the entry of a new competitor—the merged firm—instead of simply the subtraction of a competitor from the market.[75] It may be worth preventing this competitor from existing, but enforcers should be clear on why this is the case. The goal of antitrust is not maximum rivalry, but rather the prevention of anticompetitive conduct that reduces the benefits society receives from trade and commerce.[76] According to the dynamic competition approach, antitrust policy should be less concerned with market shares as an indicator of competitive conditions. Additionally, so-called “killer acquisitions” also contribute to the entry of new innovation as more nimble startups that create new products and know-how that can be acquired by larger firms with the capabilities to scale them quickly.

The Entrepreneurial Spirit and Creativity Are Central to the Process of Competition

Entrepreneurs have too limited a role in static models of competition. However, entrepreneurial firms, which can be any size, are the drivers of the dynamic competitive process because they are alert to profit opportunities and introduce new innovations that disrupt markets. This process increases economic growth because innovation and technological advancements increase productivity and wealth. Misguided antitrust policies can channel entrepreneurial activity toward exploiting socially malignant profit opportunities. Indeed, antitrust actions have often been brought by competitors seeking to gain leverage over a more successful rival.[77] Rather than focusing solely on high profits over time for certain firms, antitrust should examine whether such firms are driven to innovate by Schumpeterian competition or earn high profits without intensive investment in new R&D and innovation. A firm that fits the latter description is more problematic from an antitrust perspective and unlikely to be driven by an entrepreneurial spirit.

CONCLUSION

Each of these implications indicates a Schumpeterian, dynamic approach to competition that better aligns with market realities in innovation industries. An explicitly formulated dynamic approach will be an important component of a competition policy that supports and promotes innovation, progress, and continued leadership at the frontier of global technological advancement. While the neo-Brandeisians paid lip-service to the process of competition, they left analysis of the process largely unformulated and employed a structural viewpoint that was replaced by new economic learning decades ago. Antitrust can further advance by incorporating the dynamic approach that—while also grounded in economics—takes a process view of competition and is much more concerned about innovation than the static approach, which assesses welfare impacts from a particular point in time.

The dynamic paradigm is not new and is inspired by the work of 20th century economists. Nonetheless, it has been fully integrated into U.S. antitrust policy and is lacking even further in other antitrust jurisdictions, such as the EU. Notably, Schumpeter and Hayek analyzed market competition as a dynamic process in which market participants must continuously adjust to constant change. This report argues that, while debates about who is the most theoretically "correct" continues to be played out in academic journals, both views can be used together to inform competition policy by providing deeper understanding of the behavior of firms, with particular emphasis on firms in highly dynamic sectors, such as technology. The dynamic competition approach has significant implications for competition policy, and new insights continue to be developed in a vibrant and active research program.[78]

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The Information Technology and Innovation Foundation (ITIF) is an independent 501(c)(3) nonprofit, nonpartisan research and educational institute that has been recognized repeatedly as the world's leading think tank for science and technology policy. Its mission is to formulate, evaluate, and promote policy solutions that accelerate innovation and boost productivity to spur growth, opportunity, and progress. For more information, visit itif.org/about.

ENDNOTES

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2. Nicolas Petit and David Teece, "Capabilities: The Next Step for the Economic Construction of Competition Law," *Journal of European Competition Law and Practice* 15, no. 8 (2024): 513, https://academic.oup.com/jeclap/article/15/8/513/7918808.
3. William Kovacic, "The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix," *Columbia Business Law Review* 1, no. 1 (2007).
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7. Bloomberg, "FTC Chief Andrew Ferguson on the Trump Vision for Antitrust," *Odd Lots* (March 2025), https://www.bloomberg.com/news/articles/2025-03-17/ftc-chief-andrew-ferguson-on-the-trump-vision-for-antitrust.

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9. *See* Gregory Werden, outlining a "competitive process standard" for antitrust, Gregory J. Werden "The Competitive Process Standard" *Antitrust Law Journal* 86, no. 2 (2024), https://www.americanbar.org/content/dam/aba/publications/antitrust/journal/86/issue-2/competitive-process-standard.pdf; Andrew Ferguson, current chairman of the FTC, has cited his concerns of the short-run nature of the Chicago approach.
10. An outstanding example of innovation industries is one in which the U.S. "Big Tech" firms compete, *see* Jorge Padilla, Douglas H. Ginsburg, and Koren Wong-Ervin, "Dynamic Competition and Antitrust: Quick-Look Inferences From the Analysis of Big Tech's R&D Expenditure Ratios," *Antitrust Law Journal* 86, no. 3 (2025): 897–932.
11. For example, *see* Nicolas Petit, Thibault Schrepel, and Bowman Heiden, "Situating the Dynamic Competition Approach," Dynamic Competition Initiative Working Paper (2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4689177.
12. David J. Teece, "Understanding Dynamic Competition: New Perspectives on Potential Competition, 'Monopoly,' and Market Power" *Antitrust Law Journal* 86 no. 3 (May 2025): 735–804.
13. For a standard treatment of perfect competition *see* Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization* (4th ed., Pearson-Addison Wesley, 2005) or any standard mircroeconomics textbook, such as Tyler Cowen and Alex Tabarrok, *Modern Principles of Microeconomics* (5th ed., Worth Publishers, 2021).
14. More precisely, the concern is that price will exceed marginal cost. In static competition markets, prices should be pushed down toward the marginal costs of production, or the cost of producing additional units of the product. A typical problem in innovation industries is that overhead (fixed) costs are very high and the marginal costs of production are very low, even zero. To cover fixed costs, therefore, price must exceed marginal cost and may look supra-competitive from a static point of view. Additionally, it can be difficult to observe marginal cost, so average costs can be used as a substitute. Average cost is the total cost of producing all units divided by the number of units of a product. Where marginal cost is zero, the average cost will be equal only to fixed costs divided by the number of units.
15. For an erudite explanation of the difference between dynamic theory and analyzing competition as a process, it is worth quoting Schumpeter at length: "It should be observed that the defining feature of dynamic theory has nothing to do with the nature of economic reality to which it is applied. It is a general method of analysis rather than the study of a particular process. We can use it in order to analyze a stationary economy, just as an evolving one can be analyzed by means of the methods of statics ("comparative statics"). Hence dynamic theory need not take, and as a matter of fact has not taken, any special cognizance of the process of creative destruction which we have taken to be the essence of capitalism. It is no doubt better equipped than is static theory to deal with many questions of mechanism that arise in the analysis of that process. But it is not an analysis of that process itself, and it treats the resulting individual disturbances of given states and structures just as it treats other disturbances. To judge the functioning of perfect competition from the standpoint of capitalist evolution is therefore not the same thing as judging it from the standpoint of dynamic theory." Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy* (1942) (2008), footnote 24 at 104.
16. For an analysis of how static models of competition have manifested in various approaches to competition policy, *see* Aurelien Portuese, "Principles of Dynamic Antitrust: Competing Through

Innovation" (ITIF, June 2021), https://itif.org/publications/2021/06/14/principles-dynamic-antitrust-competing-through-innovation/.

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30. F.A. Hayek, "The Use of Knowledge in Society" *American Economic Review* 35, no. 4 (1945).
31. Ibid.
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64. Schumpeter, *Capitalism, Socialism, and Democracy*
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