International Review of Economics (2023) 70:437–456
https://doi.org/10.1007/s12232-023-00426-7

RESEARCH ARTICLE

Market competition, efficiency and economic liberty

Michele Grillo[1]

Received: 20 February 2023 / Accepted: 13 June 2023 / Published online: 6 July 2023
© The Author(s) 2023

Abstract
This paper investigates efficiency and freedom as joint foundations of market economies. Whereas ideal perfect competition accommodates Mill's principle of individual liberty in the economic arena, in real world, imperfectly competitive, markets economic freedom and efficiency appear often as conflicting values. Building on J. S. Mill's utilitarian defense of free trade in *On Liberty* Chapter V, this paper puts forward a consequentialist defense of economic freedom under imperfect competition. Defense rests on the instrumental value of equal freedom, enjoyed by every market agent, as a source of *general* welfare in a world of dispersed information among *unique* human beings. The paper has a clear impact on contemporary antitrust debate, supporting neo-Brandesians' rehabilitation of Structuralism in antitrust also on well founded, economic, *i.e.* efficiency, reasons.

Keywords Market competition · Economic freedom · Efficiency · Mill · Antitrust normative grounds

JEL Classification B10 · D43 · K21

1 Introduction

Markets are traditionally idealized as the realm of "free agency," with economic freedom (namely the self-determination of the individual to select a role in the social division of labor) being conducive to market efficiency. The interplay between liberty and efficiency was to the core of classical and neoclassical economics. Yet, today the concern over *economic freedom* in the market has lost momentum. In several circumstances, economic analysis suggests that efficient market outcomes may require restricting individual free agency. Thus, focusing on efficiency as the sole

✉ Michele Grillo
michele.grillo@unicatt.it

[1] Department of Economics and Finance, Università Cattolica del Sacro Cuore, Via Necchi, 5, 20123 Milan, Italy

content of their inquiry, economists often view efficiency and freedom as conflicting in many settings, such as (incomplete) contracts and, especially, antitrust.

This paper investigates the conditions under which efficiency and freedom act as joint foundations of market economies. In pursuit of this aim, I draw inspiration from a critical reading of Mill (1859) essay "On Liberty," with a particular focus on last Chapter V. The popular message of Mill is the "principle of individual liberty" protecting the individual from being accountable to society for actions concerning the interests of no other person but the agent himself. The principle complies with the utilitarian standard, since unrestricted agency of rational individuals is intrinsically consistent with social efficiency. Thus, under the principle, liberty and efficiency are simply two sides of the same coin. Yet, Mill is aware that economic freedom does not rest on the principle of individual liberty, because trade is a "social act." He devotes therefore the last chapter of On Liberty to the search of alternative grounds of "free trade." Mill contends that, even when human action concerns the interests of others, restricting individual economic freedom is a social waste because the agency of every human being uniquely contributes to the general welfare of society.

Confining On Liberty to the field of political philosophy, economists have paid scant attention to the overall message of Mill's essay, let alone Mill's defense of free trade. An insightful interplay between market freedom and efficiency went therefore missed in economic analysis. Today, economists either disregard the possible tension between individual freedom and efficiency or approach it by balancing a consequentialist (utilitarian) with a deontological (non-utilitarian) view, with the former focusing on efficiency and the latter on the intrinsic value of freedom. In contrast, I argue in this paper that On Liberty suggests a consistent framework helping identify conditions for freedom and efficiency to be joint normative foundations of market economies.

I find it useful to consider first the issue from the perspective of history of economic thought. While Mill (1848) shared the classical view of competition as free entry, the principle of individual liberty is akin to the subsequent neoclassical notion of perfect competition, namely the ideal market structure where lack of market power prevents market externalities from being associated with any agent's behavior. The absence of market external effects makes the perfectly competitive market a Millian context where trade is not a social act. The long road traveled by the neoclassical school—culminating in a theorem establishing that any perfectly competitive equilibrium allocation is Pareto-efficient—traces therefore a fascinating intellectual effort aiming at characterizing, albeit in contrast to Mill's own view, even economic liberty and efficiency as two sides of the same coin.

A common way to celebrate markets as the realm of free agency is to assume that actual competition approximates perfect competition, at least in a long run. Yet, game-theoretical foundations of perfect competition reject the assumption under sound technological conditions. Pervasiveness of imperfectly competitive markets compels us to recover Mill's defense of free trade as a social act. When the principle of individual liberty does not apply, Mill exalts the freedom of the individual by combining his utilitarian critique to Bentham utilitarianism with his own conception of human beings as all diverse from one another and each unique in his own way.

The agency of every self-developed individual is the source of a unique contribution to social welfare. Thus, to restrict individual freedom, even to prevent it from affecting the interests of others, involves a social waste. In addition to reducing the individual's own welfare, it deprives society of an imponderable source of collective welfare.

It is worth noticing that, in the two settings, the interplay between liberty and efficiency rests on different grounds and points to different policy implications. Under ideal perfect competition, lack of market power rests on any agent being fully substitutable (namely always having a replica within the set of economic agents). Thus, full substitutability of economic agents is the prerequisite for subsuming the interplay of economic freedom and efficiency under the principle of individual liberty. Conversely, in the actual world of imperfect competition, what makes the freedom of the individual an invaluable condition for social efficiency is irreplaceability of the single human being. Moreover, under perfect competition, economic freedom is consistent with the individual enjoying an unrestricted sphere of market agency. In contrast, under imperfect competition, pervasive market externalities prevent the individual from claiming free agency over an unlimited domain. Under such circumstances, we can only conceive economic freedom as a delimited sphere of self-determination, namely as a matter of degree. While Mill's defense of free trade surprisingly ignores this point, recent inquiries in moral philosophy provide valuable arguments supporting the view that equal compatible spheres of limited individual freedom are not simply a moral requirement for fairness. They are an essential condition of social efficiency (Carter 1999, 2005; Brown 2010).

Antitrust is the typical field where analysis above finds application. As a key institution of market economies, antitrust delimits lawful spheres of firm behavior in imperfectly competitive markets. The interplay between market freedom and efficiency is the content of vivid debate in antitrust. Assuming perfect competition as a theoretical benchmark, Structuralism points to market dispersion as a necessary condition for market free agency and then as the antitrust goal. Market behavior is therefore illegal if it artificially reduces market thickness. In contrast, the Chicago School contends that the free agency of imperfectly competitive firms should be restricted only provided conduct inefficiently reduces the consumer surplus. Thus, Chicago scholars exalt even monopoly under certain circumstances. In recent years, a dramatic increase in market concentration and big firms' market power has raised the concern of Neo-Brandesians over the impact of economic on political power. While acknowledging freedom and efficiency as possibly contrasting goals, Neo-Brandesians reject the concern over consumer surplus as economic reductionism. They claim that "protection of the competitive process" is the appropriate goal of antitrust and rehabilitate structuralism (namely firms' participation in dispersed markets), albeit on noneconomic grounds.

Unprecedentedly to the best of my knowledge, this paper establishes a thread between two distinct topics. One topic is Mill's utilitarian defense of individual freedom when the principle of individual liberty does not hold. Economists have surprisingly neglected the message of On Liberty, chapter V, in spite of its relevance for understanding market freedom. To recover the topic, as well as to expand on it, is in itself a novel contribution of the paper. The second topic involves the thorny

question of the goal of antitrust. After three decades' focus on consumer welfare, concern about market dispersion is regaining momentum, though mainly on political grounds. By delving into the connection between Mill's defense of economic freedom and the normative grounds of antitrust, this paper rehabilitates structuralism also on substantial economic, utilitarian, grounds.

In contrast to a widespread opinion, defense of structuralism in antitrust does not at all imply a static view competition, namely about firms vying for quantity or price under given technological conditions. Market dispersion is an essential condition for dynamic competition. Being conducive to inefficient market equilibria, static competition under given technological conditions is not even desirable in imperfectly competitive markets. On the contrary, efficiency-enhancing competition rests on a dynamic search of new technologies and new products. As dynamic competitive processes intrinsically take place in a world of generalized human ignorance and unpredictable change, market dispersion emerges as a necessary condition for competition among unique individuals to act effectively as a "discovery procedure" à la Hayek.

The remainder of this paper is as follows. Section 1 stresses the political dimension of market competition as negative social liberty. Section 2 shows that perfect competition turns the market into a Millian context, making efficiency and economic freedom two sides of the same coin. Section 3 recovers Mill's utilitarian defense of free trade. Section 4 argues that, when individual behavior is harmful to non-consenting others, equal compatible spheres of delimited economic freedom are essential condition for individual free agency to be the source of social efficiency. Turning to the debate on the goal of antitrust, Section 5 shows that Mill's defense of free trade rehabilitates structuralism on a fundamental economic (i.e., efficiency) basis.

2 The political dimension of economic competition

According to the Oxford Dictionary, to compete is "*to try to be more successful or better than somebody else who is trying to do the same as you*." Competition refers to a particular behavior of individuals toward each other in several social environments. In economic environments, division of labor emerges as the general setting to which the definition above finds application.

The interplay between efficient division of labor and economic competition is a core issue in economic analysis. According to classical economists, when exchanges are governed by unfettered competition in the market, no single individual participating in any production process is rewarded either below or (more crucially) above the value of his contribution to it. Thus, *free* competition induces individuals to participate in social division of labor by performing the task for which each enjoys a comparative advantage. Classical economists did not claim liberal, non-interference, principles as economic principles. They drew attention to the application to economics of principles intrinsically valuable on a much wider field and regarded efficiency and freedom as distinct, though complementary, features of market economies (Hicks 1959).

Yet, albeit within the boundaries of the economic sphere, classical economists held that, under market competition, society can rely confidently upon individual free agency. Thus, they went to the roots of an issue of paramount importance in political thought, namely how to establish "*the permissible limits of coercion*" in society (Berlin 1969a).[1] The notion of free competition helped the upsurge of the notion of negative liberty, namely individual independence from others' interference with one's opportunity to act. Nineteenth-century liberal thinkers were concerned with the maximum extension of negative liberty or the "*maximum degree of non-interference compatible with the minimum demands of social life*" (Berlin 1969a). Defining the latter as "*civil, or social, liberty*," Mill (1859) focuses on "*the nature and limits of the power which can be legitimately exercised by society over the individual*." J. S. Mill's principle of individual liberty protects the individual from society's interference with any voluntary act not prejudicial to the interests of others. As social efficiency straightforwardly follows from lack of external effects of (rational) individual agency, the principle points out a *general* condition under which individual freedom and efficiency are two sides of the same coin. In addition, by emphasizing the political dimension of market competition as negative liberty, the principle paved the way for the development of the notion of *perfect* competition from the classical notion of free competition.

3 Liberty and competition—elaborating on J. S. Mill's *On liberty*

The principle of individual liberty rests on the absence of external effects of individual behavior. Thus, it provides a flimsy handhold for defense of economic freedom. The point was clear to J. S. Mill who recognizes that "*trade is a social act*." In the trade relation, a change in any agent's demand or supply of a commodity normally has an impact on the commodity market price. Thus, it gives rise to a *market externality*, affecting the well-being of other agents by modifying consumers' budget constraint and producers' revenue functions *through the market*.[2] Neoclassical economists featured, however, *perfect* competition as an abstract setting assuming away market externalities. In contrast to classical economists, they were concerned with market power exercised even under *free* competition and contended that only universal lack of it may guarantee efficient market outcomes.

[1] Classical economists did not envisage competition as taking place in an institutional void. As a prerequisite of market interaction, agents abide by rules of law or social conventions guaranteeing respect of property rights and contractual commitments. Yet, within the sphere of market interaction, classical economists succeeded in redeeming man's liberty from the doom of turning "*against other men*" as Hobbes characterizes free agency in his second law of nature.

[2] Today, the effects of pervasive *market* externalities characterizing real-life competition are typical object of game-theoretical analysis of imperfectly competitive markets. By contrast, under perfect competition, economic analysis of externalities is traditionally concerned with the effects on the well-being of other agents that *do not* depend on the working of the market. Whereas they have a clear bearing on Mill's principle of liberty, *non-market* externalities are not involved in Mill's characterization of *trade* as a "social act.".

Lack of market power makes every agent a *price-taker* who, by freely picking from within his choice set, only affects his own well-being, leaving any other agent unaffected. While J. S. Mill was far from conceiving individuals in the market as price-takers, *perfect* competition was the surprising end of the intellectual path followed by economic analysis after Mill. Neoclassical economists succeeded in framing the perfectly competitive market as a *Millian* context whereby the absence of market externalities makes trade a *nonsocial act*, with economic liberty and efficiency simply sharing the same theoretical roots. While it is disputable whether it *describes* the actual working of competition, perfect competition finds its *hermeneutic* value in the abstract circumstances extending the principle of individual liberty to the economic relationship. Under perfect competition, a single assumption—absence of market externalities—supports both the efficiency property established by the First Theorem of Welfare and Mill's principle of individual liberty.

Game-theoretical foundations of perfect competition emphasize that, under specific technological conditions, economic liberty and efficiency may share the same theoretical roots even outside the abstract world of perfectly competitive markets. By connecting the classical notion of competition as free entry to the neoclassical notion of perfect competition, game-theoretical analysis provides a theoretical explanation of price-taking behavior. We owe the original intuition to Cournot (1838), who first established a link between free entry and price-taking, by analyzing how market structure affects price in imperfectly competitive markets. Under Cournot's assumptions of constant returns to scale, when the number of firms increases indefinitely the equilibrium price converges to the average cost, whereas the size (and the market power) of the individual firm indefinitely decreases. Thus, perfect competition results from free entry by simultaneously enhancing the case for both market efficiency (due to the decrease of equilibrium price) and economic freedom (due to the decrease of every firm's market power). The following subsection extends Cournot's results under general technological assumptions, according to the Noncooperative Theory of Perfect Competition (Novshek and Sonnenschein 1987); Journal of Economic Theory 1980).

3.1 Tracing free-market competition to the principle of individual liberty

Under perfect competition, price is the firm's marginal revenue. By contrast, in any imperfectly competitive n-firm Cournot setting, firm's marginal revenue is lower than price. By expanding production, the firm gets the price at which it sells the added quantity, but undergoes a price reduction on total quantity. We can take the second component of the marginal revenue as a measure of the *distance* of firm's behavior under imperfect and perfect competition. Under constant or decreasing returns to scale, the strategic foundations of perfect competition uphold Cournot's results, confirming that the larger the number of firms the smaller is the above distance, converging to zero in the limit. The indefinite increase in the number of firms induced by positive profits always accruing to any profit-maximizing firm leads to *perfect* competition as a *Millian* context. Firm behavior converges to price-taking behavior because the single firm's quantity converges to zero under free-entry. The

vanishing of the effect of price reduction on total quantity, *i.e.*, the *market externality* caused by firm supply, establishes the link with Mill's theory of liberty (appendix A).

Let us now drop Cournot's assumptions about technology to assume instead increasing returns, at least up to a firm's finite optimal size, where average cost is at a minimum. In the different setting, free entry stops at a finite number $n^{\#}$ of firms, where individual profits $\pi_i(n^{\#})$ are equal to zero. The firm's equilibrium quantity when free entry stops, $q_i(n^{\#})$, is greater than zero and smaller than firm's optimal size (von Weizsäcker 1980). Under increasing returns, the market externality induced by firm supply does not vanish under free entry. Yet, if the market grows infinitely in demand (as well as in the availability of resources, to prevent a price increase), free entry still leads to perfect competition. As the market expands infinitely under increasing returns, the firm equilibrium quantity when free entry stops converges to the firm's optimal size; equilibrium price converges to the minimum average cost; the firm's marginal revenue converges to the equilibrium price; firm behavior converges to price-taking. Notice, however, that, under increasing returns, the market externality caused by firm supply evaporates with free-entry not because firm's production converges to zero (in fact, it converges to the firm's optimal size) but because, due to the infinite expansion of demand, firm's production has no effect, in the limit, on price (appendix B).[3]

According to the game-theoretical foundations of perfect competition, free competition converges to *perfect* competition—with the vanishing of market externalities and market power making efficiency and economic freedom two sides of the same coin—in two alternative scenarios. In one scenario, convergence holds for any size of the economy, albeit implausibly assuming constant or decreasing returns to scale. In the more plausible scenario of increasing returns to scale (at least up to a firm's finite optimal size) convergence holds only in the limit of an infinite expansion of the economy. Thus, even if liberty, as a moral value, and efficiency, as an economic value, abstractly share the same theoretical roots, in the finite real world of imperfect competition, market free agency is always intrinsically in tension with social efficiency. The road taken by neoclassical economists, aiming at finding conditions for trade to be a *non-social* act and efficiency and liberty to be two sides of the same coin, drives us eventually back to the question raised by J. S. Mill when he acknowledged that the principle of individual liberty does not support *economic* freedom. On what grounds should the doctrine of Free Trade rest?

[3] For the sake of simplicity, I have kept my argument within the Cournot setting, where quantities are firms' strategic variable. When firms compete on price, rather than quantity, the noncooperative oligopoly equilibrium still converges to the perfectly competitive equilibrium when the number of firms indefinitely increases for any fixed degree of substitutability of firms' (differentiated) products. Conversely, convergence also occurs, for any fixed number of firms, if the degree of substitutability indefinitely increases (Polo 2018).

4 *On liberty's* chapter V.

J. S. Mill was far from envisaging generations of economists after him pouring most of their efforts into building an abstract context in which trade *is not* a social act. Taking for granted that the principle of individual liberty does not support the "doctrine of free trade," in the last chapter of *On Liberty*, Mill ventured on a search of the grounds on which the latter doctrine rests.

On Liberty, chapter V, is a collection of awkward material. J. S. Mill gave the chapter the unpretentious title of "*Applications*," picturing its content as an account of how the principle of individual liberty sheds light on practical questions. Yet, chapter V is in tension with the principle itself. Mill acknowledges that interference of society is not always justified when an act affects the interests of others. We often agree that individuals pursue their objectives undeterred by considerations of harm to (non-consenting) others. Thus, the principle of individual liberty provides at best a sufficient, but not a necessary, condition for securing a safe harbor of individual freedom. J. S. Mill points to free trade as an outstanding instance, emphasizing that disappointed competitors have no right, either legal or moral, to immunity from pain or loss.

Granting economic freedom an instrumental value alien to the principle of individual liberty, J. S. Mill defends free trade on two distinct consequentialist grounds. At the beginning of chapter V, defense rests on a conventional utilitarian argument generally anchored in the classical theory of competition as free entry.[4] In the second part of the chapter, Mill resorts instead to a peculiarly different approach. He grounds his appraisal of free trade on his own *utilitarian* criticism to Bentham's utilitarianism. While agreeing that happiness is the only thing desirable in itself, Mill's conception of man went far away from the views of his father and Bentham (Berlin 1969b). Stressing that human beings pursue happiness only through the medium of various *secondary ends*, Mill valued most the diversity, versatility and uniqueness of self-developed human beings as the very way to grasp at happiness. The perfectionist bent led therefore J. S. Mill to oppose utilitarianism as a *calculus* applied to the specific consequences of social acts, thus criticizing Bentham for mistakenly confounding the principle of utility with the principle of specific consequences.[5] The specific consequences of a particular kind of action critically are all that matters to the legislator who is concerned with deterring people from actually committing a crime. By contrast, the moral philosopher aims at pursuing social happiness by making people *incapable of desiring* a crime. Accordingly, the ultimate aim of utilitarianism is the design of social and political institutions allowing individuals

[4] At the time of *On Liberty*, most economists no longer agreed with an unqualified positive appraisal of the effects of free competition. In *Principles of Political Economy*, J. S. Mill (1848) himself holds that, even absent natural or institutional hindrances, competition often fails to deliver on its promises.

[5] Mill first expressed his criticisms at Bentham's doctrine in Mill (1833; 2014) and reiterated them in Mill (1839; 2014).

to self-develop a character apt to make them behave consistently with the Greatest Happiness Principle.[6]

The essential contribution to the general welfare of self-developed human beings with desires and impulses of their own is the core of J. S. Mill's utilitarianism. Mill grounds his peculiar *utilitarian* defense of individual freedom in *On Liberty*, Chapter V, in his conception of man. While self-developed individuals sometimes affect the interests of other persons, self-development is not simply a condition for the personal blooming of the individual. The agency of self-developed creative human beings has above all beneficial effects upon society as a whole. Individual liberty and social utility ultimately go hand in hand because the former is an essential source of the latter. Thus, when human action does not fall under the principle of individual liberty because it affects the interests of other persons, J. S. Mill defends individual freedom on a two-step utilitarian argument according to which: (i) freedom is essential for individual self-development; and (ii) self-development of every single human being is essential source of social welfare.[7]

When identifying a community of creative individuals as a condition for general welfare, Mill acknowledges his debt to Wilhelm von Humboldt, a distinguished representative of German romantic liberalism. Several decades before Mill, von Humboldt (1792, 1967) had exalted the freedom of the individual on ideals of self-assertion and self-fulfillment. What led the utilitarian Mill under the spell of the romantic thinker was Humboldt's belief that human development rests as a whole on essential contributions originating from the intrinsic diversity of every single individual. *Mannigfaltigkeit* ("manifoldness") is Humboldt's core concept, conveying the idea that individuals are not only diverse from one another but also that each one is diverse in many respects in his own way. Building on Humboldt's legacy, in the last paragraphs of *On Liberty* Mill claims that constraining the freedom of the individual means frustrating the endless diversity of human experience, impairing the wealth of benefits accruing to society from every human being (Valls 1999).

Repeated reference to trade as a "social act" suggests that economic freedom was to the very core of Mill's inquiry. Nevertheless, Mill's utilitarian defense of market freedom has received scant attention by economists. Economic analysis has long overlooked a progressive view of competition as a social mechanism relying on the contributions of unique individuals to social utility. On the one hand, in the

[6] The contrast between Bentham's and Mill's utilitarianism is a debated issue. Two polar views refer to Viner (1949) and Rawls (2007). According to Viner, Bentham's least interest in private ethics led Mill to infer that Bentham ignored the noblest human feelings. Viner contends, however, that Bentham was well aware of all consequences of an action, including those affecting the character of the agent. Rawls' polar view follows from his criticism of utilitarianism as a teleological doctrine doomed to treat the human being as a means. Yet, Rawls spares J. S. Mill from such criticism, arguing that the central value of individual self-development prevents Mill's utilitarianism from such blame. While Rawls' reading is consistent with the general message of On Liberty, Viner's reconstruction of Mill's intellectual history misses any reference to *On Liberty*, let alone the value of individual self-development in J. S. Mill's own utilitarian theory.

[7] Rawls (1971, chapter IV, Sect. 33) provides a forceful account of why J. S. Mill's principle of utility, grounded on the permanent interests of man as a progressive being, does indeed support individual freedom.

idealized world of perfect competition subsuming market freedom into Mill's principle of individual liberty, nothing new, unpredictable, unexpected comes to society from the contribution of the single individual. The efficiency properties of perfectly competitive equilibria hinge on assuming every human being as a perfectly substitutable "*man without qualities*." On the other hand, when wondering about the *real* world of imperfect competition, economists either hastily assume actual competition to approximate perfect competition or approach the tension between individual freedom and efficiency by contrasting a consequentialist ex-post defense of efficiency with a deontological ex-ante defense of the moral value of individual freedom.

Yet, the roots of romantic liberalism exalting competition as a progressive mechanism relying on the interaction of unique individuals did not disappear, at least in German economic culture. In the twentieth century, they still peep out from Schumpeter's notion of competition as *creative destruction*. They are, above all, to the core of von Hayek (1948) original view of the *meaning* of competition as a "discovery procedure" of dispersed bits of individual information of which every human being is exclusively endowed. Decentralized decision-making among free agents in competitive markets is therefore an essential mechanism conveying the dispersed information to the general welfare.[8]

[8] A referee manifests a concern with the message of the paragraph. On the one hand, the referee recognizes that the benefits accruing to society when the individual is free to experiment new ways of acting in competitive environments establish a link between J. S. Mill's peculiar utilitarian defense of free trade and Hayek's own view about the very roots of market efficiency. On the other hand, the referee warns against the risk of extending too far the analogy between two liberal thinkers who are highly different in many respects. More specifically, the referee raises three points. First, J. S. Mill's insistence on the social benefits arising from variety and originality of *nonconformist* individuals is very far from Hayek's focus on the market mechanism converging to its equilibrium under the pressure of evolutionary incentives that induce economic agents to *conform* to market conduct. Second, Hayek's *cosmic* view emphasizes a purely negative idea of liberty as a mere sphere of independence from the intrusion of collective agencies (above all, the State). Such view is substantially different from Humboldt's (let alone, Mill's) non-purely negative idea of liberty concerning the individual's opportunity of bringing forth unexpected results from allowing an evolved personality to flourish. Third, the intrinsic moral attractiveness of allowing individuals to develop harmoniously complex personalities of their own from experiments and opportunities extends far beyond Hayek's specific focus on the scattered nature of information and on the cognitive impossibility of aggregating it at the center of the system. I agree substantially with the points raised by the referee. Still, in my view a common root deserves to be underlined between Hayek's twentieth-century original view of the *meaning* of competition and the romantic liberal threads of the eighteenth- and nineteenth centuries linking J. S. Mill to von Humboldt, namely the idea that the liberty of the individual ultimately rests on the uniqueness and irreplaceability of every single individual. Such view is not only inherently in contrast to the standard justification of economic liberty in perfectly competitive markets, namely full substitutability of every individual. It also strongly excludes that, whenever economic freedom is at the stakes, society can assess and condition the freedom of every single individual on any kind of interpersonal comparison.

5 Liberty and efficiency in imperfectly competitive markets.

Let me recap the argument so far. Eighteenth-century economists regarded freedom and efficiency as distinct, though complementary, features of market economies. By contrast, concerned with the inefficiencies arising from market externalities even under free competition, neoclassical economists maintained that only universal lack of market power (price-taking behavior) guarantees efficient outcomes. *Perfect* competition turns therefore the market into an *ideal* Millian context, where the absence of *market* externalities is the single theoretical condition providing both the moral grounds for individual liberty and the economic grounds for efficiency.

Competitive free entry in the market shows that the interplay of efficiency and liberty hinges upon technology. Under constant or decreasing returns to scale, free entry leads firms to an infinitesimal (efficient) scale whereby each one acts as a price-taker and any market externality disappears. Conversely, increasing returns prevent the competitive process from annihilating firms' market power for any size of the economy. Under free entry, firms converge to a finite, smaller-than-efficient, size whereby any firm interferes with every other. As increasing returns inherently imply imperfectly competitive markets, neoclassical economists' celebration of the market as the realm of efficient "free agency" collapses under imperfect competition. Today economic analysis focuses only on the efficiency properties of the equilibria, devolving any contrast with the agents' market freedom upon the politician and the moral philosopher.[9]

Still, real-world imperfect competition is the setting in which Mill defended free trade on the utilitarian argument that free agency is an essential source of social welfare. Mill left his argument regrettably unfinished. To the best of my knowledge, no contribution in economic analysis has expanded on it. However, recent advances in moral philosophy suggest substantial arguments supporting a consequentialist defense of market freedom under imperfect competition on three connected conditions. First, market freedom always involves "a matter of degree." Second, economic freedom has instrumental non-specific value. Third, economic freedom requires *ex-ante* equal treatment of economic agents, namely *equal* compatible spheres of everyone's *delimited* freedom.

5.1 Economic freedom involves "a matter of degree"

Under rules of law and social conventions guaranteeing property rights and contractual commitments, it is common to refer to economic freedom as an agent's claim not to be subject to further restrictions depending on the working of markets. This view reflects the legacy of classical and neoclassical tradition. Holding institutional monopoly as *the* only obstruction of market agency, classical economists assumed that, when the State refrains from interfering with the market, individuals enjoy unrestricted economic

[9] The typical economist's assessment of the goals of antitrust is a clear instance of such view (Motta 2004).

freedom. Perfect competition outlines a *Millian* context thoroughly consistent with the individual's claim to unrestricted market agency. Neither framework envisages economic freedom as "a matter of degree." By contrast, unrestricted agency is untenable when the freedom of Peter interferes with Paul's freedom. Defense of free trade in *On Liberty*, Chapter V, remains substantially unfinished precisely because J. S. Mill stopped short of recognizing that, whenever a social act is involved, the liberty of reciprocally interfering agents cannot but involve a matter of degree. Due to market externalities, imperfect competition is consistent with individual economic freedom only by assuming delimited spheres of individual free agency leaving everyone with a degree of economic freedom consistent with a likely amount of any other agent.

5.2 Economic freedom has instrumental non-specific value

We conceive freedom in a specific as well as non-specific way. Freedom in a specific way is the freedom to do a specific thing. It involves a relational concept concerning an agent *X*, who is free to do an action *a*, provided no condition exerted by any other individual *Y* prevents *X* from doing *a* (MacCallum 1967). We assess the value of specific freedom simply by reference to other goods: The freedom to "do *a*" has the value that "doing *a*" has for individual *X*. Yet, we may also refer to an individual's *overall* freedom as to the set of all the freedoms to do the specific things that the individual is free to do. Overall freedom involves "a matter of degree." We are concerned with overall freedom when we attach to the freedom of the individual a non-specific value that goes beyond the cumulative value of the specific things the individual is free to do. The reason to appreciate freedom as non-specifically valuable is the instrumental value of freedom under human ignorance and fallibility. Freedom in a non-specific way matters when, before resolving on how to act, individuals, as well as society, have at most a blurred idea of how to connect specific options to specific ends and are therefore uncertain about the value of the specific options open to them (Carter 1999).

In imperfectly competitive markets, economic freedom is a clear instance of freedom appreciated in a non-specific way. While *static* competition under given technological conditions leads as a rule to an inefficient market equilibrium (see Sect. 3.1, above), competition typically acts through the discovery of *new* products or *new* production techniques. Due to dispersed information, we value free markets precisely because the *dynamic* benefits of competition hinge on the overall economic freedom of every unique individual. The connection between dynamic competition and the instrumental value of non-specific freedom is to the core of von Hayek's (1948) notion of competition as a "discovery procedure." Still, we detect a clear sign of it in the two-step consequential chain whereby J. S. Mill defends free trade in *On Liberty*, Chapter V.

5.3 Utilitarian defense of economic freedom implies equal treatment of individuals

Assuming rational individuals, the principle of individual liberty is in accordance with Mill's utilitarian moral theory. However, we cannot infer from the principle that harm to others is enough to compel conduct as morally wrong. A "*rugged*

conceptual country" lies on the borderline between Mill moral theory and Mill theory of liberty (Brown 2010). When the principle does not hold, we must therefore check carefully consistency between Mill's consequentialist defense of individual freedom and his moral views on how to separate wrong from socially approved conduct.

A widespread opinion points to the standard utilitarian criterion as the driver for compelling wrong behavior. Conduct harmful to non-consenting others would not be wrong if it contributes to utility maximization. Yet, to value market free agency according to the specific consequences of conduct is unsatisfactory in several respects. First, the utilitarian criterion would be in tension with Mill's theory of liberty, as the latter postulates that, when the principle of individual liberty *does* hold, conduct not harmful to others is never wrong, irrespective of whether it maximizes happiness or not. Second, we cannot infer from the utilitarian criterion that any action short of maximizing social utility would result in a moral wrong. In other words, we cannot stipulate a *duty* to act in such a way that the consequences of our actions promote happiness to the best of our abilities. Third, any check of the consequences of specific conduct necessarily relies, either on an *ex-post* assessment or on *ex-ante* conjectural expectations and discretionary powers of an ill-informed regulatory agency. Neither would, however, fit the reasons to appreciate the economic freedom of unique individuals due to its instrumental non-specific value. In a radically uncertain world, we can preserve consistency between Mill theory of liberty and Mill utilitarian moral theory only by looking at economic freedom from an *ex-ante* perspective. When the unpredictable results of reciprocally interfering unique individuals matter, a major concern of society is to prevent the benefits of Peter's free agency from hindering the benefits deriving from Paul's free agency. In such circumstances, we cannot but appraise individual freedom under a sort of a veil of ignorance, *i.e.*, conditional on *ex-ante* equal treatment of every human being. Defense of economic freedom on consequential grounds in imperfectly competitive markets requires therefore every individual agent enjoying an *equal* share of it.

6 Antitrust, "*rugged country*"

The *rugged country* where harm to non-consenting others is not enough for conduct to be compelled is the realm of a fundamental institution of market economies, namely antitrust. Antitrust partitions the decision set of economic agents into allowed and illegal behavior, in order to prevent socially undesirable effects of decentralized exchanges in imperfectly competitive environments. Thus, antitrust shapes economic freedom as "a matter of degree" when firms interfere with each other in the market. The last section of this paper provides a concise overview of antitrust, in order to show how Mill's defense of free trade might contribute to the antitrust debate.

Antitrust consists of two *general* norms, inhibiting firms from exerting market power through collusion or abusive conduct.[10] While disapproval of collusion is universal, unilateral conduct is a hotly debated point. Conduct of firms endowed with market power is the source of a trade-off between efficiency and economic freedom. Different views about such trade-off lead to contrasting opinions about the goal of antitrust, namely about how to separate illegal *anticompetitive* from socially accepted, though harmful, *competitive* behavior. At beginnings, antitrust was almost a subject matter for lawyers who looked at the parliamentary debate to identify illegal conduct. Early court decisions pointed to a plurality of goals, such as dispersion of economic power, satisfaction of consumers or protection of the competitive process (Fox 1981). A unified view might have come from economic analysis. Yet, over several decades, economists scantily participated in the antitrust debate (Stigler 1982; Peritz 2001).

Economic analysis made first its way into antitrust through Structuralism, grounded in the SCP ("structure, conduct, performance") paradigm. According to SCP, market power hinges on industry structure, described by number of producers and distribution of their size. In the wake of Cournot, Structuralism regards market power as a hindrance to agents' market freedom and a source of market inefficiency. According to Structuralism, the goal of antitrust is therefore to keep markets as dispersed as possible within existing technological constraints. Practices artificially reducing market thickness are *objectively* anticompetitive. Lack of a consistent theory of competition under increasing returns to scale is, however, the Achilles heel of SCP. Structuralism ignores the competitive efficiencies of large-scale undertakings. The interpreter of the discontent was Bork (1978), who blamed neglect of large-size efficiencies for turning antitrust into "a policy at war with itself." A reading of the legislative history of the Sherman Act led Bork (1966) to conclude that the legitimate antitrust goal is maximization of consumer welfare, where the latter is a measure of the efficiency of competition.

Endorsing Bork reading of the Sherman Act, the Chicago School regards antitrust Structuralism detrimental to consumers and society, whenever size is either a necessary condition or the result of a search for efficient production.[11] Assuming efficiency as the appropriate standard, Chicagoans separate anticompetitive from socially accepted, though harmful, competitive behavior according to whether conduct raises or reduces the consumer welfare, irrespective of impact on competitors' economic freedom. The Chicago School assesses therefore as lawful several practices condemned by Structuralism because they reduce market thickness. Over time, advances in game-theoretical analysis of imperfect competition have brought into

[10] The first norm forbids collusive agreements, while the second forbids abuse of market power. Both norms have general content, leaving to case law the identification of practices actually implying collusion or abusive behavior. A third regulatory task of antitrust is assessment of mergers. While firms have a duty to abstain from forbidden agreements and abuses, merging firms only have a duty to notify their intent and wait for authorization from the public agency.

[11] Bork's reading of the origin of the law is controversial (Leslie 2014). However, his criticism is largely in tune with relevant breakthroughs in economic analysis of his time, which was in search of alternative efficiency explanations of business practices raising the market power of firms (Coase 1972).

question many Chicago claims for "*overshooting the mark*" (Pitofsky 2008). The post-Chicago school criticizes Chicago-based antitrust law for resting on unwarranted confidence in the strength of competition in a long run.[12] Nevertheless, post-Chicago does not depart from Chicago in assuming efficiency as *the* normative ground of antitrust. Both schools appraise economic power as *pro-competitive* whenever it is the result of promoting efficiency. The Supreme Court in *Trinko* establishes this view, tolling the knell of any interplay between market freedom and efficiency.[13]

Over the last decades, US antitrust has been almost concerned with conspiracy among competitors ("collusion"). Attitude toward mergers and unilateral conduct is significantly relaxed. Presumption for mergers is that efficiency motivates them. Exclusion of an "as-efficient" competitor is necessary condition for anticompetitive unilateral conduct (Vickers 2005). Predatory pricing, the epitome of exclusionary practices, is a consumer welfare-enhancing strategy whenever the plaintiff is not able to produce evidence of likely *recoupment* after successful exclusion (Giocoli 2014). In the European law, structural aspects still play a role in the assessment of dominant position as a precondition for abusive behavior. However, efficiency made its way also in Europe as a standard of judgment under the label of a "more economic-based approach" (Gual et al. 2006; Pera 2008).[14]

In the second half of 2010s, debate on the goals of antitrust has gathered again momentum in the USA. Increasing evidence of a decline in competition and of rising concentration has induced neo-Brandesians to take the lead of a severe review. The label originates from Justice Louis Brandeis, a critic of concentrations of wealth, deeply concerned with the impact of economic on political power. Neo-Brandesians reverse Bork reading of the legislative history of antitrust and object to the reductionism of the economic approach focused on efficiency. Emphasizing that opportunity to compete is intrinsic to democratic values, they criticize the consumer welfare standard for neglecting economic power as a source of political power (First and Weber Waller 2013; Wu 2018). Neo-Brandesians restore the warning of former FTC President Pitofsky (1979) that "*It is bad history, bad policy and bad law to exclude political values in interpreting the antitrust law*" and herald antitrust law as a constitutional safeguard against the political dangers of unaccountable private power, advocating "protection of the competitive process" as the antitrust goal.

[12] Overconfidence in efficiency of concentration, vertical integration and market entry makes Chicago antitrust much more concerned with false positives (bringing the wrong case) than with false negatives (failing to bring the right case).

[13] *Verizon Communications Inc. v. Law Office of Curtis V. Trinko*, 540 U.S. 396 (2004) grants antitrust immunity to the monopolist achieving and maintaining its position by superior performance. The Supreme Court states that the "*mere possession of monopoly power and the concomitant charging of monopoly prices is not only not unlawful; it is an important element of the free-market system*" [as] "*the opportunity to charge monopoly prices is what attracts "business acumen" in the first place* [*and*] *induces risk taking that produces innovation and economic growth.*".

[14] European Commission (2009) suggested adoption of the *as-efficient* competitor benchmark. In *Intel* (2017), the European Court of Justice endorsed the idea that dominant firms lawfully exclude less efficient competitors.

Nonetheless, "protection of the competitive process" can prevent economic power from being a source of political power only if defense of competition requires the restraint of economic power structurally grounded in the market. Thus, neo-Brandesians rehabilitate structuralism in antitrust, albeit on noneconomic grounds. Their target is market power, irrespective of whether it is the result of an efficient market equilibrium. Yet, neo-Brandesians' allegations against the consumer welfare standard also delve into economic analysis.[15] In a general view, neo-Brandesians' claim of protection of the competitive process as the appropriate antitrust goal is in contrast to the *ex-post* outlook of the consumer welfare standard. The latter seriously forgoes changes in market structure, induced by conduct under assessment, dynamically impinging on the *prospective* competitive process. In spite of the claim that antitrust protects "competition, not competitors," the standard protects the outcome of *past* competition. Assessment of challenged practices typically rests on whether the firm has acquired and used its market power *efficiently*, with an ultimate focus on short-run price and quantity effects. Conversely, assessment is silent about whether the market power, however, efficiently and legitimately acquired, affects the outcome of future competition.[16] Thus, by freezing current competitive conditions, the consumer welfare standard unwarrantedly turns yesterday's efficiency into the best predictor of tomorrow's efficiency. As it assumes away all unpredictable benefits of future competition, including those accruing from competitors qualifying as less efficient than today's winner, the standard ignores the new, the unpredictable, the unconceived, ultimately the very ground on which society values the "freedom to compete" (Fox 1981).

Neo-Brandesians' criticism extends therefore much farther than narrowly blaming the economic reductionism of efficiency as the goal of antitrust. Without disregarding *economic* efficiency as a substantial normative ground, neo-Brandesians criticize the current economic approach because it fails to evaluate whether and how the practices under assessment jeopardize the overall benefits expected from the competitive process. Thus, by compelling antitrust to take into account the benefits of dynamic competition hinging on the unpredictable contribution of individual agents, neo-Brandesians' advocacy of "protection of the competitive process" brings back onto the stage individual freedom and efficiency as joint consequentialist foundations of market economies. In a word, neo-Brandesians rehabilitate structuralism in antitrust on essential economic grounds.

[15] As a typical instance, in digital markets, pervasive network effects are typical sources of economic power, since network effects protect digital firms and enlarge their market power even against *as-efficient* competitors, irrespective of whether market success hinges upon "competition on the merits" (Khan 2017).

[16] In an effort to dispute the criticism that the consumer welfare standard only focuses on *ex-post*, short-run, effects, Hovenkamp (2019) spoils his own argument. Hovenkamp underlies that "*antitrust policy concerned with rational fact finding and due process will find most long run concerns to be unmanageable*." Yet, the concern scarcely justifies the neglect that the assessment of expected benefits from competition substantially requires a farsighted view.

7 Conclusion

The interplay between economic freedom and social efficiency is a puzzling issue in economic analysis. Under abstract contexts of perfect competition, the absence of market externalities associated with individual agency simply makes freedom and efficiency two sides of the same coin. In contrast, under imperfect competition, freedom and efficiency emerge as conflicting issues. This paper makes three points. First, it recovers a consequentialist defense of economic freedom in imperfectly competitive markets, by reviving a theoretical thread going from von Humboldt's romantic view of the individual, to J. S. Mill's utilitarian defense of free trade, up to von Hayek's view of competition as a discovery procedure under dispersed information. Second, it argues that the instrumental value of individual freedom, as a source of general welfare in an imperfectly competitive world of dispersed information among unique human beings, calls for individual agents to enjoy an *equal* degree of *limited* economic freedom. Third, it claims that the consequentialist defense of market freedom urges antitrust to replace the current backward-looking consumer welfare standard by a forward-looking prevention of practices hindering agents from enjoying an equal degree of freedom to compete. This would rehabilitate structuralism in antitrust on intrinsic economic (*i.e.*, efficiency) grounds.

Appendix A: Under constant or decreasing returns to scale, free entry is enough to make efficiency and economic freedom two sides of the same coin.

In a symmetric Cournot setting, $p = f(Q)$, with $\frac{df}{dQ} < 0$, is the demand function of commodity Q, where $Q = \sum_{i=1}^{n} q_i$ is produced by n firms with cost function: $C_i = C(q_i)$. Firm i has revenue: $R_i = p \cdot q_i = f(Q) \cdot q_i$. Marginal revenue is:

$$MR_i = p + \frac{df}{dQ} \cdot q_i.$$

Under constant or decreasing returns to scale ($MC \geq AC$) the first-order condition for profit maximization, $MR_i = MC$, implies $p > MC \geq AC$. Positive individual profits for all finite number, n, of producers, induce indefinite entry, leading to a continuous decrease in price, $p(n)$, a continuous increase in total amount of the commodity $Q(n)$, as well as a continuous decrease in single firm quantity $q_i(n)$. Thus, the *distance* between firm's behavior in an *imperfectly* and in the *perfectly* competitive market converges to zero:

$$\lim_{n\to\infty} \left[p(n) - MR_i(n)\right] = \lim_{n\to\infty} -\frac{df}{dQ} \cdot q_i(n) = 0.$$

Appendix B: Under increasing returns to scale, free entry makes efficiency and economic freedom two sides of the same coin only provided the market expands infinitely.

In demand function $p = f(Q)$, let aggregate demand Q result from m equal consumers, each one with individual demand function, $p = \varphi(q)$ and $q = \frac{Q}{m}$.

Since $p = \varphi\left(\frac{Q}{m}\right)$, $\frac{df}{dQ} = \frac{dp}{dQ} = \varphi\prime\frac{1}{m}$ implies that $\lim_{m\to\infty}\frac{df}{dQ}(m) = 0$.

Assuming m to be a parameter of the extent of the economy, the following results hold when the free-entry process stops at a finite number $n^{\#}$ of firms under increasing returns to scale:

(1) The number of firms, $n^{\#}(m)$, increases in m;

(2) The individual firm's equilibrium quantity when the free-entry process stops, $q_i^{n\#}(m)$, increases in m, converging to the optimal size of the firm;

(3) The equilibrium price when the free-entry process stops, $p^{n\#}(m)$, decreases in m, converging to the minimum average cost of production;

(4) The marginal revenue accruing to the individual firm is:

$$\mathrm{MR}_i^{n\#}(m) = p^{n\#}(m) + \frac{df}{dQ}(m)\cdot q_i^{n\#}(m);$$

(5) The market externality caused by firm supply, namely the distance between firm's behavior under imperfect and perfect competition, decreases in m and converges to zero:

$$\lim_{m\to\infty}\left[p^{n\#}(m) - \mathrm{MR}_i^{n\#}(m)\right] = \lim_{m\to\infty}\left[-\frac{df}{dQ}(m)\cdot q_i^{n\#}(m)\right] = 0$$

Observe that the market externality caused by firm supply evaporates with free-entry, not because firm's production converges to zero (in fact, it converges to the firm's optimal size) but because, due to the infinite expansion of the market, the marginal production of the single firm has no effect, in the limit, on price.

Acknowledgements Earlier versions benefited from the comments of Titti Battaggion, Gian Paolo Barbetta, Andrea Boitani, Giovanni Bombelli, Andrea Capussela, Ian Carter, Francesco Denozza, Marco Di Tommaso, Gabrio Forti, Nicola Giocoli, Elena Granaglia, Bruna Ingrao, Mario Libertini, Sergio Mariotti, Michele Massa, Aldo Montesano, Manuela Mosca, Gianni Nardozzi, Andrea Pezzoli, Michele Polo, Lorenzo Sacconi, Georg Senoner, Francesco Silva, Guido Stazi, Piero Tedeschi and Giovanni Ursino. I thank participants at SIE (Società Italiana degli Economisti) 2019 annual conference; participants at 18 February, 2022, c.MET05 Policy Research Meeting; participants at the May 18th, 2022, workshop of the Associazione Francesca Duchini, for constructive comments.

Author contributions I am the only author of the manuscript.

Funding Open access funding provided by Università Cattolica del Sacro Cuore within the CRUI-CARE Agreement.

Declarations

Conflict of interest The author has no relevant financial or non-financial interests to disclose.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Berlin I (1969a) Two concepts of liberty. Four essays on liberty. Oxford University Press, Oxford, pp 118–172
Berlin I (1969b) John Stuart Mill and the ends of life. Four essays on liberty. Oxford University Press, Oxford, pp 173–206
Bork RH (1966) Legislative intent and the policy of the Sherman act. J Law Econ 9:7–48
Bork RH (1978) The antitrust paradox: a policy at war with itself. Basic Books, New York
Brown DG (2010) Mill's moral theory: ongoing revisionism. Polit, Philos Econ 9(1):5–45
Carter I (1999) A measure of freedom. Oxford University Press, Oxford
Coase R (1972) Industrial organization: a proposal for research. In: Fuchs V (ed) Policy issues and research opportunities in industrial organization. National Bureau of Economic Research, New York, pp 59–73
European Commission (2009) Guidance communication on enforcement priorities in applying article 82 of the EC treaty to abusive exclusionary conduct by dominant undertakings
Cournot AA (1838) Recherches sur les principes mathématiques de la théorie des richesses. Marcel Rivière & Cie, Paris
First H, Weber Waller S (2013) Antitrust's democracy deficit. Fordham Law Rev 81:2543–2574
Fox EM (1981) The modernization of antitrust: a new equilibrium. Cornell Law Rev 66:1140–1192
Giocoli N (2014) Predatory pricing in antitrust law and economics—a historical perspective. Routledge, London and New York
Gual J, Hellwig M, Perrot A, Polo M, Rey P, Schmidt K, Stembacka R (2006) An economic approach to article 82, Report for the DG competition of the European commission from the economic advisory group for competition policy. Compet Policy Int 2(1):111–154
von Hayek F (1948) Meaning of competition. In: Individualism and economic order. Chicago University Press, Chicago
Hicks JR (1959) Preface—and a Manifesto. In: Essays in world economics. Clarendon Press, Oxford, pp. v-xv [published as a separate essay in Hicks J.R (1981) Collected essays on economic theory, vol. I, Wealth and Welfare. Blackwell, Oxford]
Hovenkamp H (2019) Whatever did happen to the antitrust movement? Notre Dame Law Review 94(2):583–638
von Humboldt W (1967) Ideen zu einem Versuch, die Grenzen der Wirksamkeit des Staates zu bestimmen. Phillip Reclam jun. GmbH & Co, Stuttgart [handschriftlich, 1792; English translation as The sphere and duties of government. John Chapman, London, 1854]
Journal of Economic Theory (1980) Symposium issue 22: 121–376
Khan L (2017) Amazon's antitrust paradox. Yale Law J 126:710–805
Leslie CR (2014) Antitrust made (too) simple. Antitrust Law J 79:917–940
MacCallum G (1967) Negative and Positive Freedom. Philos Rev 76:312–334
Mill JS (1833; 2014) Remarks on Bentham's philosophy. In: Robson JM (ed) The collected works of John Stuart Mill. University of Toronto Press, Toronto
Mill JS (1839; 2014) Bentham. In: Robson JM (ed) The collected works of John Stuart Mill. University of Toronto Press, Toronto
Mill JS (1848; 2014) Principles of political economy with some of their applications to social philosophy. In: Robson JM (ed) The collected works of John Stuart Mill. University of Toronto Press, Toronto

Mill JS (1859; 2014) On Liberty. In: Robson JM (ed) The collected works of John Stuart Mill. University of Toronto Press, Toronto
Motta M (2004) Competition policy. Cambridge University Press, New York
Novshek W, Sonnenschein H (1987) General equilibrium with free entry: a synthetic approach to the theory of perfect competition. J Econ Literat XXV(3):1281–1306
Pera A (2008) Changing views of competition, economic analysis and EC antitrust law. Eur Compet J 4(1):127–168
Peritz RR (2001) Competition policy in America. History, rhetoric, law. Oxford University Press, Oxford
Polo M (2018) Entry games and free entry equilibria. In: Corchón LC, Marini M (eds) Handbook of game theory and industrial organization, vol I. Theory. Edward Elgar, Cheltenam, pp 312–342
Rawls J (1971) A theory of justice. The Belknap Press of Harvard University Press, Cambridge
Rawls J (2007) Lectures on the history of political philosophy. The Belknap Press of Harvard University Press, Cambridge
Stigler G (1982) The economists and the problem of monopoly. Am Econ Rev Pap Proc 72:1–11
Valls A (1999) Self-development and the liberal state: the cases of John Stuart Mill and Wilhelm von Humboldt. Rev Polit 61(2):251–274
Vickers J (2005) Abuses of market power. Econ J 115:F244–F261
Viner J (1949) Bentham and J. S. Mill: the utilitarian background. Am Econ Rev 39(2):360–382
von Weizsäcker C (1980) A welfare analysis of barriers to entry. Bell J Econ 11:399–420
Wu T (2018) The curse of bigness: antitrust in the new gilded age. Columbia University Press, New, York

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.