

ISSN 1936-5349 (print)
ISSN 1936-5357 (online)

HARVARD

JOHN M. OLIN CENTER FOR LAW, ECONOMICS, AND BUSINESS

THE ECONOMICS OF CLASS ACTION WAIVERS

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Forthcoming in *Yale Journal on Regulation*

Discussion Paper No. 1042

09/2020

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The Economics of Class Action Waivers

Albert H. Choi and Kathryn Spier*

September 26, 2020

Abstract

Many firms require consumers, employees, and suppliers to sign class action waivers as a condition of doing business with the firm, and the US Supreme Court has endorsed companies' ability to block class actions through mandatory individual arbitration clauses. Are class action waivers serving the interests of society or are they facilitating socially harmful business practices? This paper synthesizes and extends the existing law and economics literature by analyzing the firms' incentive to impose class action waivers. While in many settings the firms' incentive to block class actions may be aligned with maximizing social welfare, in many other settings it is not. We examine conditions in which class action waivers can compromise product safety, facilitate anticompetitive conduct, and support harmful employment practices. Our analysis delivers a more nuanced, policy-based critique of the recent US Supreme Court cases, highlights several new unresolved issues, and identifies future challenges for legal scholarship.

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Introduction

The class action is a mechanism that allows plaintiffs who have been harmed by a common defendant to aggregate their claims and pursue a single collective action rather than many individual actions.¹ In an attempt to avoid class actions, many firms require consumers, employees, and suppliers to sign class action waivers as a condition of doing business with the firm.² Some waivers prevent consumers from pursuing class actions alleging false advertising, product defects and malpractice, and antitrust violations.³ Other waivers prevent employees from joining together and pursuing claims of discrimination or other workplace violations.⁴ In the securities law context, a class action waiver can prevent investors from jointly bringing lawsuits alleging fraudulent earnings statements or self-dealing by managers.

Notwithstanding the importance of class action waivers, previous law and economics literature has focused largely on the ex-post incentives of potential plaintiffs and their lawyers to pursue class actions and has ignored the incentives of potential defendants to block class actions ex ante with class action waivers.⁵ Are class action waivers serving the interests of society by

¹ We use the phrases “class action” and “class action waiver” broadly to include multidistrict litigation (MDL) consolidations of individual lawsuits, class arbitration, and other methods for aggregating legal claims for the adjudication of common questions of law and fact. The differences among these mechanisms are not relevant for our analysis. See, e.g., Fed. R. Civ. P. 18–20 (joinders), 23 (class action).

² The *2020 Carlton Fields Class Action Survey* reports that 77.1% of companies use arbitration clauses in their contracts and 55.0% of these include class action waivers. CARLTON FIELDS, 2020 CARLTON FIELDS CLASS ACTION SURVEY (2020) at 5, <https://classactionsurvey.com/>. According to the Consumer Financial Protection Bureau’s ARBITRATION STUDY, “[t]ens of millions of consumers use consumer financial products or services that are subject to pre-dispute arbitration clauses,” and nearly all prohibit arbitration on a class basis. CONSUMER FINANCIAL PROTECTION BUREAU, ARBITRATION STUDY: REPORT TO CONGRESS, PURSUANT TO DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT § 1028(A) 9 (2015), https://files.consumerfinance.gov/f/201503_cfpb_arbitration-study-report-to-congress-2015.pdf.

³ Arbitration can differ substantially from litigation in terms of costs, procedure, and damage awards (among others). For in-depth discussions of collective action waivers, see generally Myriam Gilles, *Opting Out of Liability: The Forthcoming, Near-Total Demise of the Modern Class Action*, 104 MICH. L. REV. 373 (2005); Judith Resnik, *Diffusing Disputes: The Public in the Private of Arbitration, the Private in Courts, and the Erasure of Rights*, 124 YALE L.J. 2408 (2015).

⁴ Some estimate that 20% of employees are covered by mandatory arbitration clauses. See Alexander Colvin, *Empirical Research on Employment Arbitration: Clarity Amidst the Sound and Fury*, 11 EMP. RTS. & EMP. POL’Y J. 405 (2004).

⁵ Many scholars argue that class actions allow plaintiffs to avoid duplication of expenses and achieve economies of scale. This is particularly valuable when the harms that the plaintiffs have suffered are very small relative to the costs of litigation, as in such cases individual actions would have negative expected value (NEV). See generally Kenneth W. Dam, *Class Actions: Efficiency, Compensation, Deterrence, and Conflict of Interest*, 4 J. LEGAL STUD. 47, 60 (1975), GEOFFREY P. MILLER, *Class Actions*, 2 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 257 (Peter Newman ed., 1998), and ROBERT BONE, *Class Action*, ENCYCLOPEDIA OF LAW AND ECONOMICS:

avoiding wasteful litigation and rent-seeking by lawyers?⁶ Or are they blocking meritorious legal claims and facilitating socially harmful business practices? These issues are of practical as well as academic interest. The importance of class action waivers has come to the fore through recent U.S. Supreme Court cases, such as *Concepcion*,⁷ *Italian Colors*,⁸ and *Epic Systems*,⁹ that have largely endorsed companies' ability to block class actions through mandatory individual arbitration clauses.

This paper builds on the existing law and economics literature¹⁰ by focusing on the defendant-firms' incentive to impose class action waivers on potential plaintiffs. We foremost identify conditions under which a firm's private incentive to block or allow class actions may or may not be aligned with maximizing social welfare. We also suggest what the law can do when a firm's private incentive is not aligned with the interest of society. Our analysis delivers a more nuanced, policy-based understanding of the recent U.S. Supreme Court cases and identifies several new unresolved issues and future challenges for legal scholarship.

We present our arguments using a series of illustrative examples to demonstrate the effects of class action waivers. Class action waivers prevent plaintiffs from achieving economies of scale and other efficiencies in litigation, but also potentially limit the value captured by lawyers and third parties. Most (but not all) of our illustrative examples focus on settings where

PROCEDURAL LAW AND ECONOMICS (Chris William Sanchirico ed., 2d ed. 2012). Class actions are also valuable when individual claims have positive expected value (PEV) insofar as class actions reduce the per-plaintiff costs of litigation and/or allow the plaintiffs to optimize their investments. See David Rosenberg & Kathryn E. Spier, *Incentives to Invest in Litigation and the Superiority of the Class Action*, 6 J. LEGAL ANALYSIS 305, 347–48 (2014). For an earlier analysis on class action waivers, see generally Keith Hylton, *The Economics of Class Actions and Class Action Waivers*, 23 SUP. CT. ECON. REV. 305 (2015).

⁶ According to Beisner et al., “[o]ne of the most heavily criticized class-action abuses has been the use of class-action settlements to generate huge fees for lawyers and little or nothing for the allegedly injured consumers.” Beisner, John H., Matthew Shors, & Jessica Davidson Miller. *Class Action ‘Cops.’ Public Servants or Private Entrepreneurs?* 57 STAN. L. REV. 1141, 1145 (2005). But see Brian Fitzpatrick, *Do Class Action Lawyers Make Too Little?* 158 U. PA. L. REV. 2043 (2010).

⁷ *AT&T Mobility LLC v. Concepcion*, 563 U.S. 333 (2011). The case dealt with mandatory individual arbitration provision in cell phone service contracts. The US Supreme Court over-turned lower court's ruling that such provisions are “unconscionable” under California contract law.

⁸ *Am. Express Co. v. Italian Colors Rest.*, 570 U.S. 228 (2013). The plaintiffs argued that American Express was exercising monopoly power over charge cards to force retailers to accept higher fees on American Express's credit cards. Although the plaintiffs argued that bringing individual antitrust arbitration case, in accordance with the credit card service agreements, would be prohibitively costly, the Court ruled that the plaintiffs still retained the right to pursue the antitrust remedy.

⁹ *Epic Sys. Corp. v. Lewis*, 138 S. Ct. 1612 (2018). In that case, the Court ruled that mandating individual arbitration on plaintiff-employees (pursuant to the employment agreement) did not violate the National Labor Relations Act, notwithstanding an earlier, contrary interpretation by the National Labor Relations Board.

¹⁰ See sources cited *supra* note 5.

class action lawsuits are financially viable but individual lawsuits are not (because the cost of bringing an individual claim exceeds the damage award at trial). In these examples, the class action waiver operates as a *de facto* waiver of liability.¹¹

We show that in well-functioning markets with sophisticated consumers, the firms' incentive to allow class actions or block them by requiring consumers to sign waivers at the time of purchase is aligned with social welfare. If the costs of litigation are significant and there are few offsetting benefits from litigation, litigation is likely a social waste. If firms already have adequate incentives to manufacture safe products and provide appropriate working conditions, perhaps through market and regulatory monitoring mechanisms, class action waivers would be privately and socially desirable. Allowing class actions would lead to wasteful litigation spending, thereby decreasing social welfare. On the other hand, when imposing liability on the firms is necessary to induce the firms to make unobservable safety investments, so long as the consumers rationally expect the consequences of the liability system, firms will voluntarily choose the dispute resolution format that solves the deterrence problem at the lowest cost possible. In these cases, both the firm and the consumers get to share the increase in social surplus from choosing the optimal dispute resolution forum.¹²

When markets are not well-functioning, however, then firms' private incentive to block class actions by requiring consumers to sign class action waivers may be socially excessive. By blocking class actions and chilling litigation, firms can exploit market failures and divert value from consumers and employees to the detriment of society. When consumers misperceive the impact of signing a class action waiver, or are unaware that they are signing one, the price that consumers are willing to pay for the product will not adjust to reflect the presence or absence of a class action waiver. In this case, firms will impose class action waivers as a cost savings device, and product safety and reliability may be compromised. Furthermore, in market settings where regulations are necessary to avoid corporate misconduct (such as antitrust and employment laws) but public enforcement mechanisms are weak, class actions may be socially

¹¹ More generally, plaintiffs may have an excessive or insufficient incentive to sue. *See generally* Steven Shavell, *The Fundamental Divergence Between the Private and the Social Motive to use the Legal System*, 26 J. LEGAL STUD. 575 (1997).

¹² According to the Coase Theorem, in settings without transactions costs or other impediments, the assignment of property rights should not matter. Private parties would negotiate to an economically efficient outcome. *See* Ronald Coase, *The Problem of Social Cost*, 3 J. LAW ECON. 1 (1960).

desirable. Private lawsuits brought against firms that engage in illegal price fixing, or against employers that breach their duties towards workers, can be a critical complement to public enforcement efforts. Unlike the earlier set of cases, the reason why the firm's incentives are not aligned is that the firm does not capture any increase in surplus from choosing the socially optimal dispute resolution system.

The essay is organized as follows. Part I presents a series of illustrative examples to demonstrate how firms' incentive to impose class action waivers may or may not be aligned with maximizing social welfare. The Part starts with a benchmark example, followed by a series of variations. The final Part II concludes the essay with some thoughts for future research.

I. Illustrative Examples

This section presents simple, numerical examples to examine a firm's incentive to allow class actions or block them by requiring consumers to sign class action waivers. Our primary focus is on settings where individual lawsuits have NEV but class actions have positive expected value (PEV).¹³ For example, a consumer who entered into a contract with AT&T Mobility for cellular telephone service would probably not find it worthwhile pursue an individual claim if the likely gross recovery is on the order of \$30.¹⁴ It may be worthwhile, however, for one million similarly situated consumers to join their claims and pursue litigation as a class action. By doing so, they will be able to achieve sufficient economies of scale (on the cost of litigation) which, in turn, would transform their claim into one with PEV. When individual lawsuits are assumed to have a NEV, a class action waiver will effectively block litigation against the firm and function as a de facto liability waiver. Although it is not our primary focus, we will also discuss settings where individual lawsuits have PEV and class actions allow plaintiffs to realize economies of scale.¹⁵

¹³ The Supreme Court extolled the class-action mechanism in *Deposit Guar. Nat'l Bank v. Roper*, 445 U.S. 326, 339 (1980) ("aggrieved persons may be without any effective redress unless they may employ the class-action device").

¹⁴ Justice Breyer, in his dissent in *Concepcion*, writes "[w]hat rational lawyer would have signed on to represent the Concepcions in litigation for the possibility of fees stemming from a \$30.22 claim?" *Concepcion*, 563 U.S. at 1762. The Concepcions were charged \$30.22 in sales tax on two phones. *Id.* at 1761–62.

¹⁵ For empirical evidence of economies of scale, see generally Theodore Eisenberg & Geoffrey Miller, *Attorneys Fees and Expenses in Class Action Settlements: 1993-2008*, 7 J. EMPIRICAL LEGAL STUD. 248 (2010); Brian Fitzpatrick, *An Empirical Study of Class Action Settlements and Their Fee Awards*, 7 J. EMPIRICAL LEGAL STUD. 811 (2010).

The section starts with a simple benchmark example and considers a series of variations. The first set of variations explores settings where the private ex ante incentive of the firm to block class actions is aligned with the interests of society. In these examples, the value created (or destroyed) by blocking class actions is shared with consumers and suppliers. The second set of variations explores settings where the private and social interests are not aligned. In particular, by blocking class action litigation, firms may profitably divert value from consumers, employees, and suppliers, at the expense of economic efficiency and social welfare. The section concludes with an informal discussion of other possible wrinkles and complications.

A. Benchmark Example

Many of the ideas in this section will be illustrated through the lens of products liability.¹⁶ In particular, we will explore contractual clauses that prevent consumers who have suffered a loss due to defective products from aggregating their claims and bringing a single action against the manufacturers of these products.¹⁷ To anchor our analysis, we begin with a very simple benchmark of a monopolist that sells a product that could harm consumers.¹⁸ The marginal cost of production is assumed to be \$100. The product malfunctions at a rate of 10% per unit, causing (monetized) harm to the consumer of \$1,000, so the “average” or expected harm associated with each unit of the product sold is \$100. We assume that if the firm were to be sued by the consumers under strict products liability, the firm will be found liable for certain (for the harm of \$1,000) so that the only question is whether the harmed consumers find it worthwhile to bring suit.

Suppose the lawsuits brought on an individual basis have NEV: an individual consumer’s cost of litigating a products liability claim is greater than the damage award. So, without class actions, consumers themselves must bear the accident costs and forego compensation. On the other hand, class actions have a PEV due to economies of scale. For simplicity, when class actions are allowed the litigation costs (for both consumers and the firm) fall to zero. So, when

¹⁶ Products liability accounted for 11.6% of class actions matters and 9.4% of spending in 2020. Consumer fraud accounted for 16.0% of matters and 15.6% of spending. CARLTON FIELDS, *supra* note 2, at 15.

¹⁷ The harms could include personal injury or economic damages, such as price overcharges in the Volkswagen diesel emissions litigation. See Hiroko Tabuchi & Jack Ewing, *Volkswagen to Pay \$14.7 Billion to Settle Diesel Claims in U.S.*, THE NEW YORK TIMES, Jun. 28, 2016, <https://www.nytimes.com/2016/06/28/business/volkswagen-settlement-diesel-scandal.html>.

¹⁸ We focus on the monopoly (and monopsony) cases to simplify the analysis. The main thesis will stay the same even if we were to assume a competitive market structure.

class actions are allowed, consumers who have suffered harm bring a class action and are made whole through litigation. We also assume that consumers are risk neutral, sophisticated and understand the risks that the product poses, and that there are no actions that the consumers or the firm can take to reduce the probability of an accident or mitigate the degree of harm. We will relax these assumptions later.

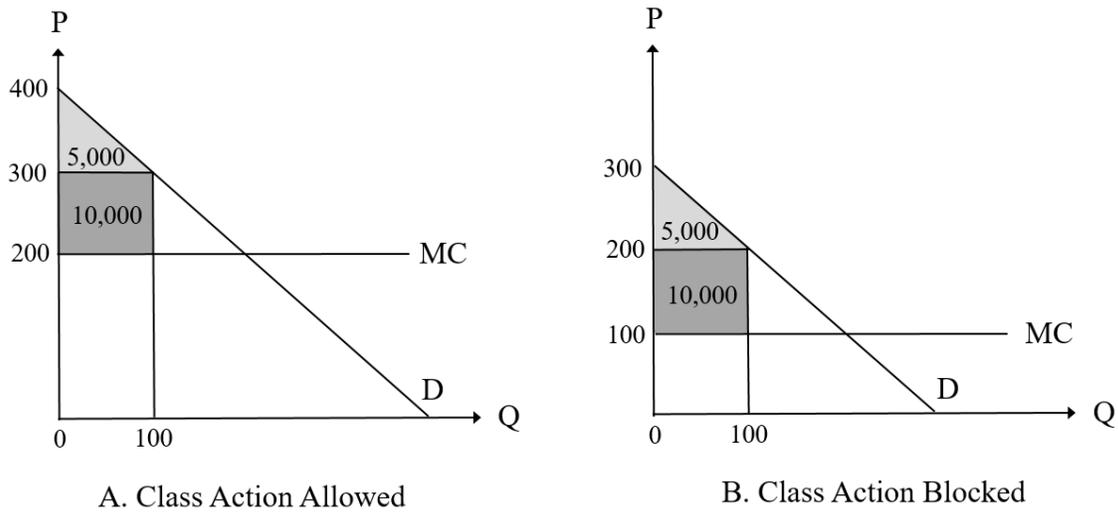


Figure 1: Benchmark Example
(Zero Class Action Litigation Costs, Sophisticated Consumers, No Moral Hazard)

Figure 1A shows the market outcome when the firm accepts liability and does not require consumers to sign a class action waiver as a condition of purchase. The firm’s cost of selling a unit of the product is cost of manufacturing the product plus the expected future expected liability, $\$100 + \$100 = \$200$. This is represented by the horizontal line labeled “MC” for marginal cost. The demand curve, labeled “D,” shows the gross willingness to pay of the consumers for the product and represented by the linear relationship of $P = \$400 - Q$. Since the consumers (rationally) expect to be made whole after suffering accidents (through strict liability and zero litigation cost), their willingness to pay does not reflect their future harms. In Figure 1A, the firm charges a price $P = \$300$ and sells $Q = 100$ units of the product. The producer surplus is the profit margin, $P - MC = \$300 - \$200 = \$100$ times the quantity sold, or $\$10,000$. The consumer surplus triangle has an area of $\$5,000$. The total surplus when class actions are

allowed, $\$10,000 + \$5,000 = \$15,000$, is shared by the firm and the consumers. Notice that the firm captures two thirds of the total surplus and the consumers receive one third.¹⁹

Figure 1B shows the market outcome when the firm requires consumers to sign a class action waiver. Since class actions are blocked and individual lawsuits are prohibitively costly by assumption, this effectively “snuffs out” all future litigation and is equivalent to giving a liability waiver to the firm. Comparing Figure 1B to Figure 1A, we see that there are two differences. First, since the firm does not face future liability, their marginal cost is simply the manufacturing cost of \$100 per unit. Second, consumers are not made whole through litigation. Each consumer bears an expected loss of \$100 ($= 0.1 \times \1000). So, each consumer’s willingness to pay is \$100 lower compared to the situation in Figure 1A. For example, a consumer who would be willing to pay \$400 for the product if the losses were fully compensated is willing to pay \$300 if their losses are uncompensated. The marginal cost curve and the demand curve are both shifting down by exactly the same amount of \$100. Consequently, the price charged by the firm is \$100 lower, too: $P = \$200$ in Figure 1B instead of \$300 in Figure 1A.

Importantly, in our benchmark example, the decision of the firm to allow or block class actions has no effect on either the quantity sold ($Q = 100$), the firm’s profits, or the consumer surplus. Intuitively, in a world without transactions costs, products liability reflects a simple ex-post transfer of value of \$100 from the firm to each consumer. This transfer of value is reflected in the ex-ante market price, which is \$100 higher in Figure 1A. In Figures 1A and 1B, the producer surplus is \$10,000 and the consumer surplus is \$5,000. The overall division of value between the firm and the consumers is unchanged, too, with the firm capturing two thirds of the social surplus.

Our benchmark example relied on several very strong assumptions: zero litigation costs, sophisticated consumers who understand the product risks, and no moral hazard on the part of the firm.²⁰ When these assumptions are relaxed, then liability can have profound effects on the both the “size of the pie” and the allocation of the surplus between the firm and consumers. This

¹⁹ This follows from the geometry of the example which includes a linear demand curve and constant marginal cost.

²⁰ Our benchmark example also assumed risk-neutral consumers. In the absence of well-functioning insurance markets, products liability has the desirable property of shifting risk from risk-averse consumers towards the firm. We will discuss the implications of risk-averse consumers in Part I. D.

will, in turn, have an implication on whether it is in the firm's private incentive to allow or disallow class actions and whether such private incentive is aligned with social welfare.

B. Private and Social Incentives Aligned

In the benchmark case with no transactions cost, both the firm and the consumers were indifferent about whether to allow class actions. In this part, we relax some of the strong assumptions embedded in the benchmark case to examine circumstances in which class actions have an impact on the market outcome. We first relax the assumptions of no (or prohibitively high) litigation costs. Next, we relax the assumption that the product risks are known and examine the problem of the firm's moral hazard. We will show that the firm is no longer indifferent between blocking and allowing class actions. However, so long as consumers are sophisticated and do not misperceive product risks, the firm's decision to block or allow class action litigation will be aligned with the interests of consumers.

1. Costly Litigation

Figure 2 extends our benchmark example in Figure 1 to include costs of litigation. Suppose that the consumer-plaintiffs' cost bringing a class action is \$100 per consumer and the firm's cost of litigation is also \$100 (per consumer). The consumers will file a class action once they suffer harm since the net return from litigation is positive. Since loss happens 10% of the time, this corresponds to an expected litigation cost of $(0.1) \times \$100 = \10 for the consumer and for the firm, each. On the other hand, as before, with class action waivers, it is prohibitively costly for the consumers to bring an individual lawsuit: an individual lawsuit costs more than \$1,000 per consumer and has a NEV.

The market outcome when class actions are allowed is shown in Figure 2A. Notice that, compared to the benchmark in Figure 1A, the demand curve has shifted down by \$10 and the firm's marginal cost curve has shifted up by \$10, reflecting the expected litigation costs. The market price is \$300 in both figures, but producer surplus is \$8,100 instead of \$10,000, and the consumer surplus is \$4,050 instead of \$5,000.²¹ The firm and the consumers are both better off when class actions are blocked, as shown in Figure 2B. If the firm requires consumers to sign class action waivers as a condition of sale, no lawsuits are brought and so there are no

²¹ As before, the producer surplus is two thirds of the social surplus.

transactions costs. This saves expected costs of $\$10 + \$10 = \$20$ per unit sold, and the total surplus rises from $\$12,150$ to $\$15,000$. The extra surplus created when class actions are blocked, $\$15,000 - \$12,150 = \$2,850$ in this example, is shared by the firm and the consumers.

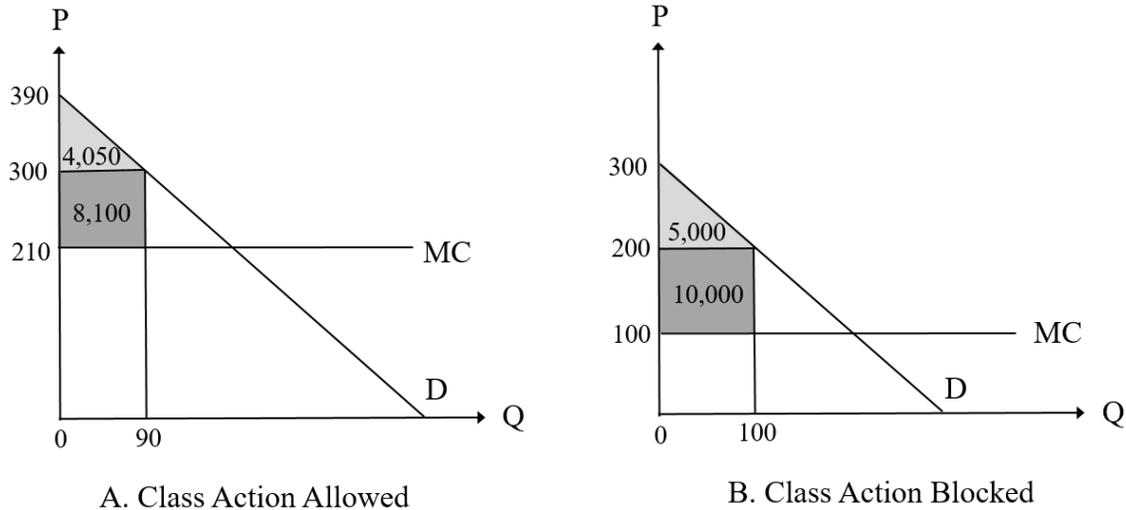


Figure 2: Costly Litigation

As a general matter, if class actions are costly and have no offsetting social benefits, the firms’ decision to require consumers to waive their rights to bring class actions is good for consumers, too.²² In the example above, since individual lawsuits have NEV, if class actions are blocked, consumers will not bring lawsuits and cannot recoup their accident losses ex post. Although class actions generate monetary benefits for injured consumers ex post, the consumers as a group are worse off from an ex ante perspective. If the firm allowed class actions to proceed, the firm would need to build the possibility of liability and the cost of litigation into the price of the product. When class actions are allowed, the price will rise. Since litigation is costly, involving significant transactions costs, those costs would be jointly borne by the firms

²² Polinsky and Shavell have argued that when there is a robust market and regulatory monitoring over product safety, product liability regime becomes unnecessary. See A. Mitchell Polinsky and Steven Shavell, *The Uneasy Case for Product Liability*, 123 HARV. L. REV. 1437, 1443—1453 (2010). Baker and Choi examine how a liability regime can help when the market mechanism is imperfect. See generally Scott Baker & Albert H. Choi, *Reputation and Litigation: Why Costly Legal Sanctions Can Work Better than Reputational Sanctions*, 47 J. LEGAL STUD. 45 (2018) (analyzing how reputational sanctions interact with legal sanctions). Schwartz argues that absent market failures, consumer sovereignty should be the prevailing norm. See Alan Schwartz, *Proposals for Products Liability Reform: A Theoretical Synthesis*, 97 YALE L.J. 353, 357—268 (1988).

and the consumers. Thus, in Figure 2, the firm's decision to block class actions by requiring consumers to sign class action waivers is socially desirable.

Conversely, if individual lawsuits have a PEV, and class actions allow economies of scale and lower the per-plaintiff litigation cost, the firm would have a private incentive to *allow class actions*.²³ Requiring consumers to sign class action waivers would of course block class actions but would not stop litigation. Instead, a class action waiver would force the injured plaintiffs to substitute away from low-cost class actions towards higher-cost individual lawsuits. Anticipating the need to defend against costly individual lawsuits, the firm costs would rise by more than \$10.²⁴ In addition, insofar as consumers can foresee being plaintiffs in future litigation, their demand for the product would fall by more than \$10. With individual rather than class actions, the firm's profits, consumer surplus, and social welfare would all fall in tandem. Thus, similar to the benchmark example, the firm has a private incentive to allow class actions, and allowing class actions benefits consumers and is socially desirable.

2. Moral Hazard

So far, we have assumed that the firm does not face any kind of moral hazard or commitment problem. If products are experience or credence goods and other enforcement mechanisms (such as market or regulatory sanctions) are not working well, firms have an economic interest in assuring consumers that the products are as represented and are safe. For example, a restaurant chain or a food processor would like to assure consumers that their food products are safe and uncontaminated and will not cause illness. Similarly, durable equipment manufacturers would like to assure consumers that their products will function properly under normal conditions. Liability is a mechanism by which firms can "bond" themselves and solve the moral hazard problems. By doing so, so long as the consumers have sufficient foresight and sophistication, the firms would increase the potential plaintiffs' willingness to pay (i.e., increase

²³ Class action litigation may lead to higher per-plaintiff litigation costs. Although plaintiffs can avoid duplication when they consolidate their claims, plaintiffs also have a joint incentive to spend more money in the litigation contest. Specifically, combining many small lawsuits into one consolidated claim magnifies the stakes in the litigation and can stimulate more litigation spending on both sides. Firms would have a stronger incentive to block class action in this case. *See generally* David Rosenberg & Kathryn Spier, *Incentives to Invest in Litigation and the Superiority of the Class Action*, 6 J. LEGAL ANALYSIS 305 (2014).

²⁴ Suppose that the cost of individual litigation is \$800 per unit for the firm and the consumer. Then, the demand curve would shift down by \$80 and the marginal cost curve would shift up by \$80. The price would be \$300 and the producer surplus and consumer surplus would be \$400 and \$200, respectively.

the surplus from the transaction) and also be able to realize a larger profit. Allowing class proceedings may be privately and socially optimal in these circumstances.²⁵

These ideas may be illustrated by extending our benchmark example. We now consider a moral hazard problem where product safety or reliability, along with the firm's investment to reduce accidents, is unobserved by consumers at the time of sale. As before, consumers are sophisticated and correctly perceive the incentive problems and the potential product risks; the firm's marginal manufacturing cost is \$100; and the harm caused by an accident is \$1,000. But now there is an opportunity for the firm to make the product safer or more reliable: by spending an additional \$20 per unit,²⁶ thus raising the manufacturing cost from \$100 to \$120, the probability of harm falls from 10% to 4%, reducing the average or expected harm per unit from \$100 to \$40.²⁷ Notice that this investment is socially desirable, since reduction in harm, \$100 – \$40 = \$60, is greater than the incremental cost of \$20.

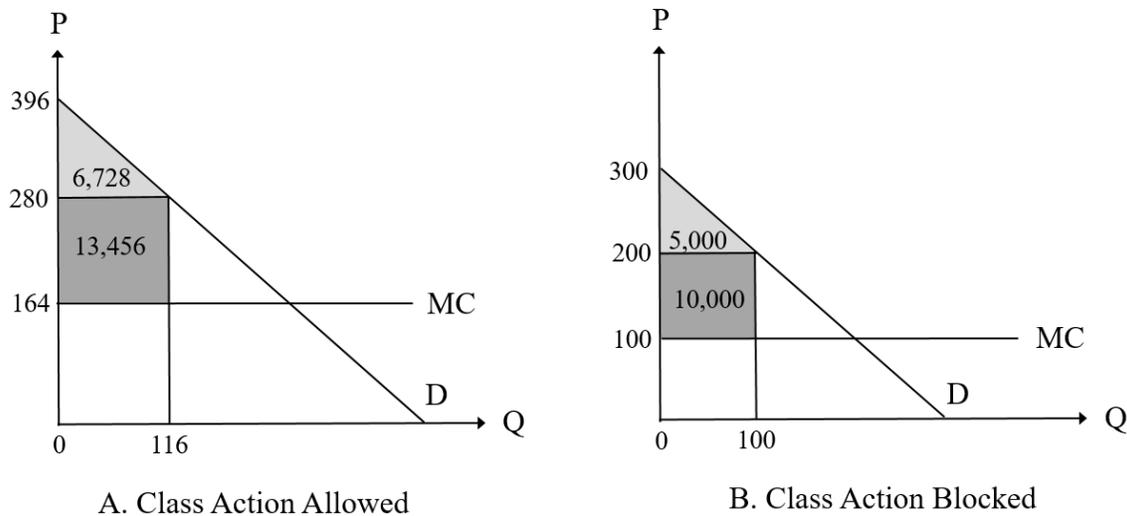


Figure 3: Moral Hazard

²⁵ Not all consumer and employment contracts include class action waivers. CARLTON FIELDS, *supra* note 2. Recently, some firms have stopped requiring employees to submit disputes to individual arbitration. See, e.g., Daisuke Wakabayashi, *Google Scraps Forced Arbitration Policy*, THE NEW YORK TIMES, Feb. 22, 2019, <https://www.nytimes.com/2019/02/21/technology/google-forced-arbitration.html>.

²⁶ In reality, investment in safety may be done on a lump-sum basis (e.g., through R&D). We use the per-product cost assumption to preserve the constant marginal cost and to make the analysis simple.

²⁷ For simplicity, we assume that the firm posts its price first before the firm and the consumers make their decisions on investment and purchase. This removes the possibility of using price to signal investment.

First, suppose that the firm accepts products liability, and does not require consumers to sign class action waivers. As in the previous example, let's assume that the cost of class action litigation is \$100 (for each consumer and the firm), whereas the cost of individual litigation is prohibitively high. Suppose the firm allows class actions and also makes the investment to reduce the probability of accident from 10% to 4%. Suppose further that consumers expect the firm to make the investment, and they expect to receive compensatory damages through the class action mechanism. As shown in Figure 3A, each consumer's willingness to pay will be reduced by \$4, which is their expected cost of litigation. With the lower probability of harm, the firm's marginal cost is $\$100 + \$20 + (0.04)(\$1,000 + \$100) = \$164$. The firm charges $P = \$280$ and earns profits of \$13,456 and consumer surplus is \$6,728.²⁸ As above, the firm captures two thirds of the social surplus and the consumers capture one third.²⁹

Now suppose instead that the firm imposes a class action waiver on consumers and the consumers find it prohibitively costly to bring individual lawsuits against the firm. Given that the consumers do not observe the safety or reliability of the product at the time of sale, with a class action waiver, the firm has no incentive to invest the additional \$20 to reduce the probability of accidents.³⁰ So, the firm's marginal cost of production is \$100 as shown in Figure 3B. Consumers are sophisticated and understand that products are unsafe and cause accidents 10% of the time, and that their future losses will not be compensated. This is reflected in the demand curve in Figure 3B. As in the benchmark, the firm charges $P = \$200$ and earns profits of \$10,000 and consumer surplus is \$5,000. Importantly, both firms and consumers are better off when class actions are allowed. The extra surplus created when class actions are allowed, $\$20,184 - \$15,000 = \$5,184$ in this example, is shared by the firm and the consumers.

The examples have shown that if class action generates significant social benefits—in particular, if it solves the problem of firm moral hazard, firms themselves may have a private

²⁸ The firm strictly better off making the investment. Without the investment, the firm's marginal cost rises to $\$100 + (0.10)(\$1,100) = \$210 > \164 , reducing the firm's profit.

²⁹ The total surplus is $\$6,728 + \$13,456 = \$20,184$.

³⁰ More precisely, without any ex post liability, given that the consumers do not observe the safety or reliability of the product nor the firm's investment at the time of purchase, conditional on any price, firm has an incentive to deviate and make no investment. In equilibrium, the firm makes no additional investment and the consumers, rationally expecting this, become willing to pay a lower price for the product.

incentive to allow class actions.³¹ If the net benefits from improvements in product safety or reliability (the reduction in the harms to consumers minus the incremental cost of producing better products) is higher than the expected costs of litigation, firm profits, consumer surplus, and social welfare are all higher when class actions are allowed. When firm profits and consumer surplus rise and fall in tandem, as illustrated in the examples above, the firm's private incentives to impose class action waivers and the social incentives are aligned.

C. Private and Social Incentives Not Aligned

There are several settings where the firms' private incentives to block class actions are socially excessive. In general, misalignments between the firms' private incentives and the social incentives may arise when the threat of class action litigation increases the size of the transactional or social surplus, but the additional value created is captured by the consumers at the expense of the firms. In these circumstances, firms will attempt to block class actions and the social surplus will fall. As we will see, such problems arise when consumers systematically misperceive the risk or the impact of waiving their rights to bring class actions. Such problems also arise when competitors get together and collude to fix prices above competitive levels. A similar misalignment arises when employers have market power and "squeeze" employees and lower the wages or other employee benefits for the purpose of maximizing profit. Still other (somewhat more subtle) misalignments occur when adverse selection is present: in a (more socially desirable) pooling equilibrium, certain consumer groups can be subsidizing others and this creates an incentive for the firms to engage in "cream-skimming" so as to grab a larger surplus from the subsidizing group.

1. Consumer Misperceptions

Distortions may arise when consumers misperceive the impact of signing a class action waiver or are simply unaware of the existence of the clause. Indeed, it is well documented that consumers fail to read the fine print in the contracts that they sign.³² So, as a consequence, we might not expect the inclusion or omission of a class action waiver to meaningfully change the

³¹ The example assumes strict liability. Similar results would be obtained under the negligence standard where the firm will not be found liable if investment were made and consumers do not observe the firm's investment choice at the time of purchase.

³² See generally Yannis Bakos, Florencia Marotta-Wurgler, & David R. Trossen, *Does Anyone Read the Fine Print? Consumer Attention to Standard Form Contracts*, 43 J. LEGAL STUD. 1 (2014).

consumers' willingness to pay for the product or the quantity demanded in the market. When consumers' willingness to pay for the product is relatively invariant to the inclusion or exclusion of a class action waiver, firms cannot capture the social benefits of class action litigation and are therefore more likely to require class action waivers as a cost-saving measure. As a consequence, firms will have inadequate incentives to make cost-justified investments to improve product safety.³³

We now illustrate these ideas by extending the moral hazard example from above. Suppose that whether the firm includes a class-action waiver or not, consumers mistakenly believe that the firm will take due care when designing and producing the products and that, in the event of a harm, they will be compensated for the loss.³⁴ Thus, the consumers' willingness to pay for the product remains unaffected by the class action waiver. Figure 4 extends the moral hazard example to reflect this new situation. Figure 4A, which is identical to Figure 3A, shows the market outcome when class actions are allowed. Following the logic outlined above, firms will make the safety investment and each firm's marginal cost of production is \$164, consisting of \$100 manufacturing cost, \$20 of safety investment, and \$44 of expected cost of litigation ($= (0.04)(\$1,000 + \$100)$).³⁵ The firm charges $P = \$280$, sells 116 units and realizes \$13,456 in profits.

³³ Similar distortions arise when consumers systematically underestimate product risks. *See generally* Koichi Hamada, *Liability Rules and Income Distribution in Product Liability*, 66 AM. ECON. REV. 228 (1976); Michael Spence, *Consumer Misperceptions, Product Failure and Producer Liability*, 44 REV. ECON. STUD. 561 (1977).

³⁴ In other settings, consumers might believe that they will never be compensated for their losses. In that case, the firm would have no incentive to allow class actions (remove a class action waiver), because it would expose the firm to liability without any corresponding benefits (consumer demand would not change).

³⁵ If a firm were to not make the safety investment, its expected marginal cost will, instead, be \$210, consisting of \$100 of manufacturing cost plus \$110 from litigation ($= (0.1)(\$1,000 + \$100)$).

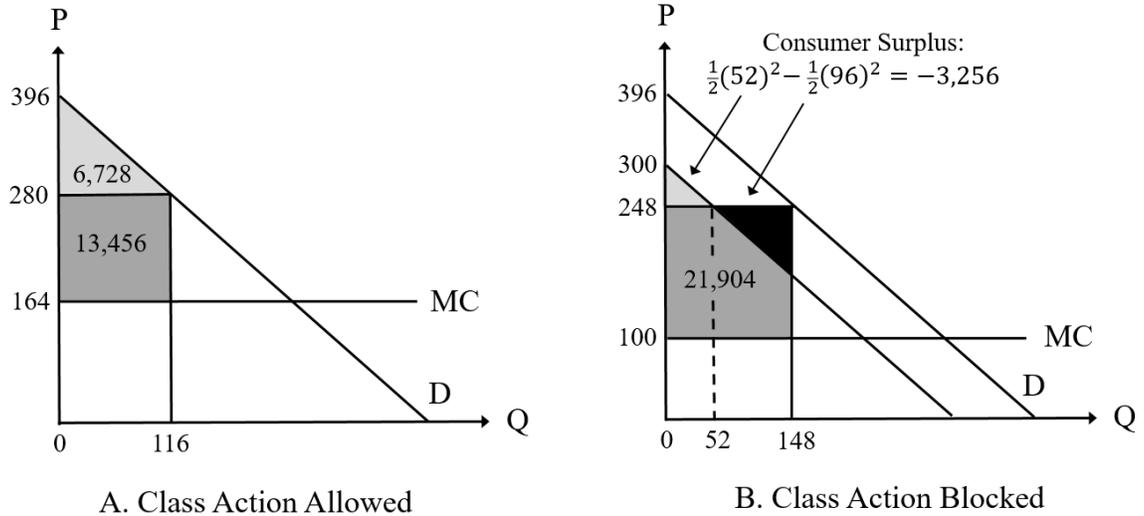


Figure 4: Consumer Misperceptions

Figure 4B shows the market outcome when the firm requires consumers to sign a class action waiver and that the consumers are unaware of the waiver’s effects. Notice that the demand curve in Figure 4B is the same as in Figure 4A when class actions are allowed. The firm has no incentive to invest in product safety and so the marginal cost of production is just \$100, the manufacturing cost, just as in Figure 3B. The firm charges $P = \$248$, sells 148 units and realizes profits of \$21,904. Notice that consumers in the range of $[52, 148]$ along the horizontal axis are paying more for the product than it is actually worth to them! This is because consumers misperceive the risks and purchase the product even though they should not. As shown in Figure 4B, consumers, in the aggregate, are obtaining a consumer surplus of *negative* \$3,256.³⁶

Similar to the case when the consumers misperceive the product risk, we can see that the private incentive of the firm to block class actions is socially excessive. By requiring consumers to waive their right to a class action, the firm can take advantage of consumer misperception and lower their expected marginal cost from \$164 to \$100 and raise their profits from \$13,924 to \$21,904. While consumers may think that they are better off with a class action waiver, since they are paying \$32 less, the lower price is swamped by the uncompensated loss: consumer surplus falls from \$6,728 to $-\$3,256$. The total surplus in Figure 4B is $\$21,904 - \$3,256 =$

³⁶ Notice that the firm has no incentive to tell consumers the truth. Many products liability lawsuits allege that firms failed to disclose product risks to consumers.

\$18,648, which is lower than the total surplus when class actions are allowed in Figure 4A, $\$13,456 + \$6,728 = \$20,184$.

In this example, producer surplus and consumer surplus do not rise and fall in tandem. Class actions are efficient from a social perspective but reduce the firm's profits. By blocking class actions, the firm extracts value from the consumers and creates a large deadweight loss. With consumer misperceptions, the firm's private decision to block class actions creates market distortions and causes social harm.

2. Private Antitrust Litigation

Firms may require consumers to waive their right to bring class actions to immunize themselves against private antitrust litigation. When public enforcement of the antitrust laws is less-than-fully effective and class actions are blocked, firms may engage in anticompetitive conduct that raises firm profits but reduces consumer surplus and social welfare.³⁷

Let us reconsider our benchmark example where the marginal production cost is \$100. In contrast to our earlier example, we will assume that the product is perfectly safe and never causes accidents. So, products liability is not an issue. There are however antitrust concerns. Specifically, we can imagine that the product is sold not by a monopolist but by a cartel of identical firms. We will assume that public enforcement is weak and individual litigation is not viable, so if consumers sign class action waivers, firms will fix the price at the monopoly level without any risk of lawsuits. This is shown in Figure 5B, where the price that maximizes cartel profits is \$250, producer surplus is \$22,500, and consumer surplus is \$11,250. In contrast, if there is no class action waiver, then consumers may be able to bring private antitrust lawsuits against the firms for the overcharge, that is the price charged by the cartel minus the "but for" competitive price of \$100. We assume that litigation is costly, where the cost (measured per unit) of bringing an antitrust class action is \$50. As shown in Figure 5A, the feasibility of litigation will discipline the firms to charge \$150 instead of \$250. When the price $P = \$150$, consumers are (just) unwilling to pursue private antitrust litigation because the lawsuit does not have PEV.³⁸

³⁷ This section is based on Albert H. Choi & Kathryn E. Spier, *Class Actions and Private Antitrust Litigation*, 12 AM. ECON. J.: MICROECONOMICS (forthcoming Nov. 2020), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3329316.

³⁸ This example assumes that consumers always win at trial and receive compensatory damages for the overcharge. If consumers received treble damages but won with probability 33% the results would be the same.

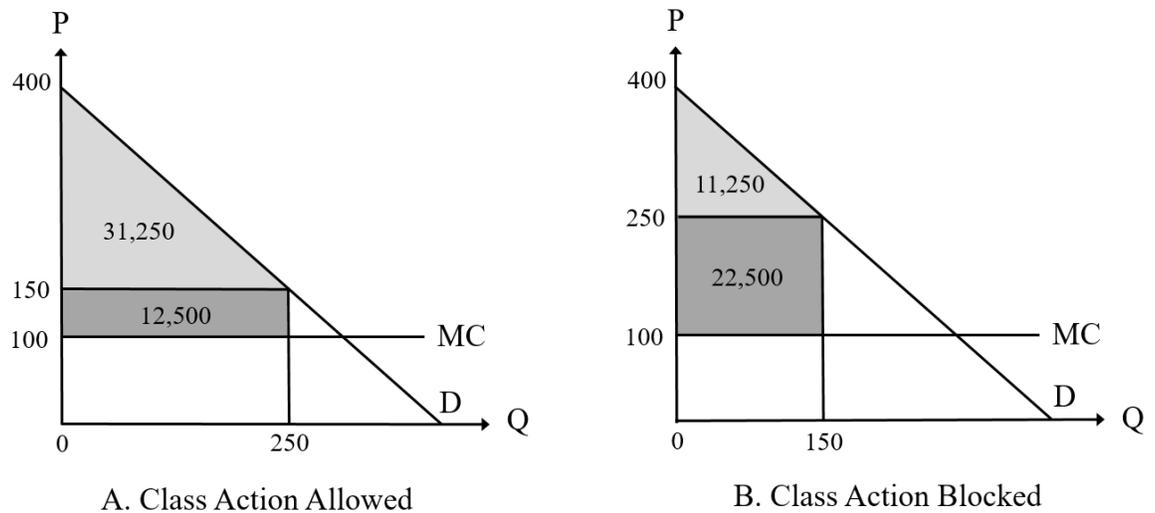


Figure 5: Private Antitrust Litigation

Figures 5A and 5B show that allowing class actions is socially efficient. The threat of private antitrust litigation disciplines the firms to reduce their prices from \$250 to \$150, stimulating demand for the product and creating a much larger social surplus, \$43,750 versus \$34,750. But note that when class actions are allowed, the consumers capture more than two thirds of the total surplus, and the firms get less than one third. The firms have a strong incentive to block private antitrust lawsuits, since this allows the firms to charge higher prices and producer surplus rises by $\$22,500 - \$12,500 = \$10,000$. Of course, this causes consumer surplus to fall by an even larger amount, $\$31,250 - \$11,250 = \$20,000$. Requiring consumers to sign class action waivers as a condition of sale allows the firms to capture a much larger share of a smaller pie.

In the products liability setting (and without consumer misperception), as the firms make a safety investment, it increased social welfare and the consumers' willingness to pay, and the firms were able to capture (at least a big chunk of) the increase in social welfare by charging a higher price. In this antitrust setting, by contrast, social welfare would increase when the firms charge price that is close to their marginal cost. By doing so, however, all of that increase goes to the consumers and this undermines the firms' incentive to choose the optimal deterrence regime.

3. Monopsonist Employer

The flipside of firms' attempting to extract monopoly rent through price fixing is when a firm has too much market power as the purchaser of inputs. Imagine an employer that enjoys monopsony power in the labor market. As in the products liability setting, in this setting, we can represent the market in a graph with wages on the vertical axis and the employment level on the horizontal axis. In Figure 6, labor demand curve is given as the downward sloping line that depicts the inverse relationship between the wage and the quantity while the upward sloping line shows the labor supply curve. We use the concept of "wage" as somewhat loosely to include not just the monetary compensation, but also other employee benefits, such as fringe benefits, non-hostile and non-discriminatory work environment, workplace safety, etc.

Suppose labor regulations mandate that the monopsonist employer must pay pecuniary and non-pecuniary benefits such that the workers' total monetized compensation is \$15 per hour.³⁹ We assume that, notwithstanding the mandate, public enforcement mechanisms are insufficient, but the employees may bring private lawsuits against the employer for violations. In Figure 6A, if the employees were able to bring costless class actions against the monopsonist employer, the monopsonist will pay \$15 an hour and the equilibrium maximizes social welfare. The employer will realize the surplus of \$112.5 (represented by the light gray triangle at top) while the employees, as a group, also realize the surplus of \$112.5. If the employer attempts to reduce the compensation to a level below \$15, the employees will be able to bring a class action against the employer and force the employer to either compensate the employees or, through injunction, pay \$15 per hour.

³⁹ This is the "socially optimal" wage (it maximizes the sum of worker and firm surplus). In practice, regulators may not have the information necessary to do this.

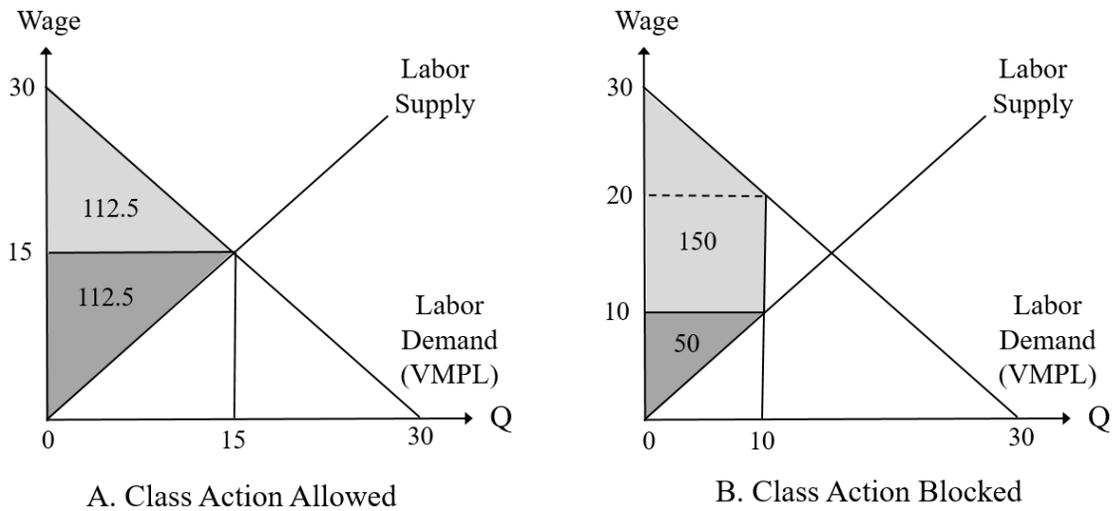


Figure 6: Monopsonist Employer

But, of course, this is not the ideal outcome for the monopsonist. By conditioning employment on the signing of a class action waiver, the monopsonist can reduce the total compensation for the employees and capture a larger surplus. With the assumption, as in the benchmark case, that individual litigation is prohibitively costly, employees will no longer be able to receive compensation through litigation. This is depicted in Figure 6B. With a class action waiver, the monopsonist can reduce the total hourly compensation down to say \$10 and realize a profit of \$150, instead of \$112.5. The employees' surplus decreases to \$50 while this exercise of monopsony power also creates a deadweight loss (since at \$10, the marginal product of labor is \$20). If the monopsonist were given a choice, it will choose the latter regime with no class actions and this is socially inefficient.

The reason why the monopsonist's incentive is not aligned with maximizing social welfare is the flipside of our earlier price-fixing example. Suppose we are in regime 7B, with the equilibrium compensation of \$10 per hour. If the monopsonist were to marginally increase the compensation, say, to \$11, while the total social surplus increases (the deadweight loss shrinks), all of that increase is captured by the employees and none by the monopsonist-employer. Unless the monopsonist can engage in perfect wage discrimination, with a single wage, there is no way

for the monopsonist to capture the increase in social welfare. The monopsonist's incentive of choosing the optimal litigation regime is misaligned with the social objective.⁴⁰

D. Further Considerations

The illustrative examples presented so far have relied on a variety of simplifying assumptions. Once we take into account more realistic issues, such as adverse selection and agency problem within class actions, while the analysis would necessarily become more complex, the main theme of identifying circumstances in which the private and the social incentives diverge or converge will remain more or less the same. Rather than trying to present additional analytical examples, in this section we discuss these complexities more informally.

1. Consumer Risk Aversion

Our core insights continue to hold if consumers are risk averse. In the examples above, the consumer was assumed to be risk neutral: the monetized disutility associated with a 10% chance of accident that would cause harm of \$1,000 was exactly \$100. In reality, people are typically risk averse in the sense that a person would pay more than \$100 to avoid a 10% chance of a \$1,000 loss. Indeed, risk aversion is probably the most important reason why people buy insurance policies and seek to diversify their retirement portfolios.

If consumers are risk averse—and do not have access to competitive insurance markets—then strict liability may be an efficient mechanism for shifting risk away from the risk averse consumers towards firms who are in a better position to diversify that risk. When strict liability is socially efficient, then absent the conflating factors of consumer misperceptions discussed above, it is in the mutual interest of firms and consumers to mitigate the risk borne by consumers. Let us reconsider the benchmark example in Figure 1. If class actions are allowed, then consumers are fully insured against future losses and outcome is exactly as in Figure 1A. The total surplus of \$15,000 is divided between the firm and the consumers with the firm receiving two thirds. If class actions are blocked and individual litigation is not viable, then the risk averse consumers would suffer an expected loss of *more than* \$100. When class actions are blocked, consumers are exposed to risk and so the demand curve in Figure 1B would be lower

⁴⁰ CARLTON FIELDS, *supra* note 2, at 23 (“sixty-seven percent of companies report that they faced at least one labor and employment class action within the last five years”). Issues include wage and hour disputes, contractor misclassifications, and data privacy.

than before; the firm would lower its price, sell fewer units, and firm profits and consumer surplus would fall.

2. Agency Problems, Cy Pres Relief, and Frivolous Litigation

When class actions are plagued by the problems of agency or open the floodgates for potentially frivolous litigation,⁴¹ firms would be more inclined to impose a class action waiver. Class actions are de facto controlled by lawyers who may pursue their individual objectives rather than the wellbeing of the class members. Especially when the class size is large and there is no plaintiff with a sizable claim, class members may have little or no incentive to engage in costly monitoring of the lawyer representing the class and judicial oversight is arguably insufficient. Class action lawyers can capture the value that would otherwise go to the consumers ex post. Moreover, when the per-plaintiff recoveries are small it is common for the litigation funds to remain unclaimed and, in many cases, the funds are distributed to charities and non-profit organizations (so called “cy pres” relief).⁴² Then, class actions operate as an *ad valorem tax* on the product. Firms must raise the price to cover the expected payments to lawyers and third parties, and this reduces producer and consumer surplus. Insofar as class actions create a “sink” where value is captured by lawyers and third parties ex post, blocking class actions benefits consumers and producers (although lawyers and third parties may suffer the loss of rents).

Class action waivers may or may not be socially desirable in this setting. While the rents captured by lawyers and third parties may be viewed as a simple transfer of value, there is an important social cost from rent seeking. As the rents get larger, the price of the product rises, the quantity sold falls, and the deadweight loss grows.⁴³ On the other hand, rent seeking by lawyers and third parties could have positive deterrence benefits, as firms take greater precautions to

⁴¹ Frivolous litigants may include parties who suffered no harm and bring lawsuits for their settlement value.

⁴² See generally Martin H. Redish et al., *Cy Pres Relief and the Pathologies of the Modern Class Action: A Normative and Empirical Analysis*, 62 FLA. L. REV. 617 (2010). BRIAN FITZPATRICK, THE CONSERVATIVE CASE FOR CLASS ACTIONS (2019), argues that frivolous class actions are rare and that 80 to 85% of monies paid in class action settlements go to class members.

⁴³ This is true even if lawyers and third parties are part of the social welfare calculation. Suppose in Figure 1A that the lawyer and third parties capture the benefits of litigation rather than the consumers themselves – the accident losses are uncompensated. The demand curve in Figure 1A will shift down by \$100 and cross the vertical axis at \$300. With a marginal cost of \$200, the firm will charge a price of $P = \$250$ and sell just 50 units of the good. Firm profits are \$2,500, consumer surplus is half this amount or \$1,250, and the lawyer/third party surplus is \$5,000. The total surplus is $\$8,750 < \$15,000$, the total surplus in Figure 1A.

avoid future litigation. In this setting, the firms' private incentive to block class actions through class action waivers may be socially excessive. The firm and the consumers do not internalize the benefits to third parties from class action litigation, and therefore might tolerate more product defects than are socially desirable.

3. Adverse Selection

In the numerical examples, we have assumed that each consumer's propensity of suffering harm was the same. Once we relax this assumption and impose a more realistic possibility that there could be some heterogeneity among consumers regarding their propensity of suffering harm, i.e., allow for a possible adverse selection, aligning social and private incentives with respect to class actions becomes generally more difficult. We briefly mention two possibilities here.

The first possibility is through potential "cream-skimming" through suboptimal liability provision. Suppose that consumers are heterogeneous and have private information about the likelihood that they will suffer accidents, and that when competitive firms take precautions, the likelihood of accident falls for both consumer types. There is a moral-hazard problem in that the firm's precautions are not observed at the time of sale. Class actions are socially efficient, because it gives the firms the incentive to take the cost-justified precautions. However, some firms have an incentive to disallow class actions and charge a lower price. They do this in order to select (cream-skin) the low risk consumers. So, the private incentive to block class actions may be socially excessive.⁴⁴

Another possibility is when a monopolist attempts to price-discriminate among different types of consumers. Suppose that consumers are heterogeneous, where the willingness to pay for a product is positively correlated with the likelihood of an accident (as would be the case with intensity of use). Note that liability is mechanism for the consumers to get ex post "rebates" on their purchases, and the high-value consumer types get higher average rebates since they have accidents more frequently. So, if the firm allows class actions, the firm is giving higher rebates to consumers who were all-else-equal willing to pay more for the product. So, liability is

⁴⁴ This adverse selection problem was highlighted in our earlier work. *See generally* Albert H. Choi & Kathryn E. Spier, *Should Consumers be Permitted to Waive Products Liability? Product Safety, Private Contracts, and Adverse Selection*, 30 J.L. ECON. & ORG. 734 (2014); Jennifer Arlen, *Contracting Over Liability: Medical Malpractice and the Cost of Choice*, 158 U. PA. L. REV. 957 (2010).

subsidizing the wrong consumers. Therefore the firm will block class actions because by blocking lawsuits the firm can better price discriminate. Blocking class actions in this context is socially inefficient. When the firm blocks class actions, they choose the product safety level that is optimal for the marginal consumer. The marginal consumer is someone who suffers accidents relatively infrequently. Therefore product safety is insufficient.⁴⁵

II. Concluding Remarks and Thoughts on Future Research

Building on the existing law and economics literature and with a series of illustrative examples, this paper has analyzed conditions under which private firms' incentive to impose class action waivers may or may not be aligned with maximizing social welfare. The issue of whether class action waiver provisions should be enforced has come to the fore through a series of recent US Supreme Court cases and the paper has attempted to provide a more nuanced, policy-based understanding of that question. While the focus has been private versus social incentive to allow class actions, this certainly isn't the only salient issue involving class action mechanisms. In this concluding section, we offer to highlight at least a few additional avenues for future research.

The first unresolved question involves unforeseen contingencies. The analytical frameworks described in this paper were premised on the litigation risks being foreseen by the market. When requiring consumers or employees to sign class action waivers, the firms fully understood the implications of their choices, and could weigh the pros and cons of the contractual options. The COVID-19 pandemic, which was unforeseen by the market, creates new challenges for the both the practice and theory of law. In the first half of 2020 alone, about 500 COVID-19 related class actions were filed in a variety of industries and many companies are reporting increases in litigation activity.⁴⁶ For example, so-called "business interruption" cases have been brought against insurance companies that deny coverage for businesses that had to close due to various restrictions,⁴⁷ "refund class actions" brought by students against universities

⁴⁵ See generally Xinyu Hua & Kathryn E. Spier, *Product Safety, Contracts, and Liability*, 51 RAND J. ECON. 233 (2020). Blocking class actions also exacerbates the moral hazard problem, further compromising product safety.

⁴⁶ 70% of companies surveyed expected an increase in class action litigation and virtually none expected a decline. CARLTON FIELDS, *supra* note 2, at 7.

⁴⁷ See, e.g., *Troy Stacy Enterprises Inc. v. The Cincinnati Insurance Company*, No. 1:20-cv-00312 (S.D. Ohio filed Apr. 19, 2020); *Milkboy Center City LLC v. The Cincinnati Insurance Co. et al.*, No. 2:20-cv-02036 (E.D. Pa. filed Apr. 27, 2020).

for not delivering the contracted services,⁴⁸ and actions brought by workers with grievances over how their employers handled the crisis.⁴⁹ In contrast to cases where future contingencies are reasonably foreseen, when class action waivers are forbidding potential plaintiffs from bringing class actions based on unforeseen contingencies, this throws a new complexity over the question of enforceability.

Another issue that needs more in-depth examination is that of class certification: determining the boundaries of the class. Our framework has assumed that whether a certain plaintiff has suffered injury and whether the plaintiff belongs in the class can be determined relatively easily. In practice, however, the problem of determining the boundaries of the class and class certification may be far from straightforward. Resolving this issue can be quite challenging, for instance, in the case of securities class actions. When class action plaintiffs allege that they suffered a loss by a company's misrepresentation, since the US Supreme Court case of *Halliburton*,⁵⁰ the defendant-company can rebut the class certification by showing that the securities market wasn't sufficiently informationally efficient and the alleged misrepresentation did not cause mispricing of the security. Similar issues can arise in product liability setting when a defendant firm tries to show that the harm suffered by the plaintiff was caused by some other factor. Drawing the right boundaries will have a significant effect on forestalling frivolous claims and overall deterrence against firms. The issues of unforeseen contingencies and class certification, just to highlight a few, raise many interesting issues that remain on the law and economics research agenda.

⁴⁸ Some students allege that the quality of online education falls far short of what they could get on campus. *See, e.g.,* Pfingsten v. Carnegie Mellon University, No. 2:20-cv-00716 (W.D. Pa. filed May 15, 2020). In another refund class action filing, baseball fans have attempted to bring a class action against StubHub and Ticketmaster seeking refunds for Major League Baseball tickets. *See, e.g.,* Ajzenman et al. v. Office of the Commissioner of Baseball et al., No. 2:20-cv-03643 (C.D. Cal. filed April 20, 2020).

⁴⁹ Employees of Celebrity Cruise Lines have brought suit alleging that they were forced to remain onboard the vessel without pay when the industry was shut down. *See, e.g.,* Maglana v. Celebrity Cruises Inc., No. 1:20-cv-22133 (S.D. Fla. filed May 21, 2020).

⁵⁰ *Halliburton Co. v. Erica P. John Fund, Inc.*, 573 U.S. 258 (2014). Recently, Judge Hellerstein of the Southern District Court of New York rejected the settlement proposal between Harvey Weinstein and dozens of women who have accused him of sexual harassment and abuse. In the process, the judge expressed skepticism as to whether the claims should belong in the same class and whether the plaintiffs should pursue individual actions. *See* Jodi Kantor & Megan Twohey, *Judge, Expressing Skepticism, Upends \$25 Million Harvey Weinstein Settlement*, THE NEW YORK TIMES, July 14, 2020, <https://www.nytimes.com/2020/07/14/us/harvey-weinstein-settlement.html>.