Understanding MACs and MAEs

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Abstract

The standard contract that governs friendly mergers contains a material adverse change clause (a “MAC”) and a material adverse effect clause (a “MAE”); these clauses permit a buyer costlessly to cancel the deal if such a change or effect occurs. In recent years, the traditional MAC and MAE term has been supplemented by a detailed set of exceptions that curtails the buyer’s ability to exit. The term today engenders substantial litigation and occupies center stage in the negotiation of merger agreements. This paper asks what functions the MAC and MAE term serve, what function the exceptions serve and why the exceptions have arisen only recently. It answers that the term encourages the target to make otherwise noncontractable synergy investments that would reduce the likelihood of low value realizations, because the term permits the buyer to exit in the event the proposed corporate combination comes to have a low value. The exceptions to the MAC and MAE term impose exogenous risk on the buyer; the parties cannot affect this risk and the buyer is a relatively superior risk bearer. The exceptions have arisen recently because the changing nature of modern deals make the materialization of exogenous risk a more serious danger than it had been. The modern MAC and MAE term thus responds to the threat of moral hazard by both parties in the sometimes lengthy interim between executing a merger agreement and closing it. The paper’s empirical part examines actual merger contracts and reports preliminary results that are consistent with the analysis.

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1. Introduction

Corporate assets commonly transfer under acquisition agreements and these have crystalized into a fairly standard form.\(^1\) Despite its immense commercial significance, however, the standard acquisition agreement has excited almost no academic commentary.\(^2\) This paper begins a study of the standard agreement by focusing on a set of terms that now receives considerable attention from lawyers and courts, the material adverse change clause (the “MAC”) and the material adverse event clause (the “MAE”).\(^3\)

The negotiation of MACs and MAEs historically was not the object of bargaining concern. James Freund’s classic 1975 Anatomy of a Merger thus treats the topic in a page and a half.\(^4\) A typical term would permit the buyer not to close the transaction on the post-execution occurrence of “any change, occurrence or state of facts that is materially adverse to the business, financial condition or results of operations” of the seller (i.e., the “target”). This language is ambiguous with respect to

\(^1\)The standard form does not apply to hostile acquisitions, defined as transactions to which the target board does not agree. The bulk of acquisitions are not hostile, however. Even in the 1980s, the decade of the hostile takeover, 86% of acquisitions were friendly. In the 90s, this fraction rose to 96%. Acquisitions are of major economic significance. Thus, in 1995 mergers accounted for 5% of US GDP and 48% of nonresidential investment. See Andrade, Mitchell and Stafford, “New Evidence and Perspectives on Mergers, 15 J. Econ. Perspectives 103 (2001).


\(^3\)Commonly, the same numbered paragraph in the standard agreement will include both a material adverse change clause and a material adverse event clause. We sometimes refer to both of these clauses together as MACs.

significant issues. As an illustration, did a material change in the target’s “business” include a change whose only impact would be on the target’s future cash flows, or would additional language be required to cover this effect? Such language could include the term “prospects” in the litany of objects of the MAC clause, or it could specify that a change that would or was likely to have a future effect also was covered. These and other ambiguities in the typical MAC produced little litigation despite the potentially high stakes associated with a term that could allow the buyer to cancel or renegotiate a large transaction.

The calm in acquisition practice has been shattered in recent years. Litigation over MACs and MAEs has become prominent. In its wake, the negotiation of these clauses has become contested and their length has exploded. The professional literature also has expanded dramatically. This change—the promotion of MACs and MAEs from the M & A chorus to center stage—provides the motivation for our paper.

We attempt to make three contributions. Our primary goal is to understand the role MACs play in the structure of an acquisition agreement. We will argue that the traditional MAC form completes the transactional structure that constrains seller moral hazard. In the same vein, we hope to explain the change in MAC practice; that is, to identify the factors that account for the new efforts to

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6We define a MAC as “traditional” if the merger agreement omits to set out exceptions to the acquirer’s right to cancel in the event of a material adverse change or effect.
resolve the ambiguities inherent in the traditional MAC formulation through detailed drafting. Two hypotheses could account both for the traditional role of MACs and for changes in MAC practice. The first, which we call the symmetry hypothesis, is driven by changes in corporate law that have accentuated the resemblance of the seller’s interest in an executed but not yet closed transaction to a put option. The second, which we call the investment hypothesis, is driven by the implications of a seller’s ability to make relation specific investments during the post-execution/pre-closing period that would affect the post-closing value of the new, combined company. Seller investments in synergy are lost when deals fail to close, but do not necessarily reduce a seller’s stand alone value beyond these wasted resources. In some recently expanding industries, however, wasted synergy investments could have a value reducing effect, thereby heightening the significance of terms such as the MAC that permit the buyer to exit costlessly. As we will see, the symmetry and investment hypotheses yield different predictions about the nature of the recent change in MAC practice: the symmetry hypothesis predicts an expansion of the circumstances that would permit a buyer not to close a transaction; the investment hypothesis predicts a contraction of those circumstances. Our preliminary data reject the symmetry hypothesis. This paper’s second contribution is to explore the implications of our explanations for the drafting of MAC clauses and for their judicial interpretation.

Finally, we focus on the contract theory implications of the MAC term. Parties commonly reject contract law’s standards in favor of contractual rules.\footnote{A standard specifies permitted or prohibited actions ex post. Thus, requiring the buyer to object to a defective tender in a “reasonable time after delivery” is a standard; requiring the buyer to object within ten business days is a rule. The ratio of standards to rules in contract law is very high. See Alan Schwartz and Robert E. Scott, “Contract Theory and the Limits of Contract Law”,} MACs thus are interesting from a

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contract theory point of view because the traditional MAC is a contractual standard -- a “material adverse change” -- while recent changes in drafting practice have made MACs more rule like. We will argue that the investment theory of MACs explains both the apparent oddity of the traditional MAC and the reversion of MAC and MAE clauses to the “contracting mean”.

In Part 2, we describe the role that MACs and MAEs play in the structure of the standard acquisition agreement and we frame the competing symmetry and investment theory explanations both for the existence of a traditional MAC term and for the recent change in its formulation – from the general to the particular. Part 3 contains a simple model of the investment theory that attempts to illuminate its corporate and contract theory implications. Part 4 next reports the preliminary results of our empirical analysis: Despite the change in the character of the acquiring company’s interest in an executory acquisition agreement, the data are inconsistent with the symmetry theory. Rather than observing a broadening of the acquirer’s right to walk away from the transaction as a result of a change in the value of a target’s business, we appear to be seeing the opposite: a shift in risk from the target to the acquirer through an increasingly detailed list of changes in the target’s business that will not permit the acquirer to exit. We then offer an explanation for this change in the form that MACs and MAEs take: an increase in exogenous and undiversifiable risk that would be inefficiently borne by the seller if merger agreements not to allocate the risk to buyers. Part 5 briefly considers the implications of our analysis for judicial interpretation of MAC clauses and for their drafting, and Part 6 concludes.

2. The changing structure and function of the standard acquisition agreement.
2.1. The role of closing conditions in a corporate acquisition agreement.

Three sets of provisions reflect the basic transactional engineering of a corporate acquisition agreement: representations and warranties, covenants and conditions. Representations and warranties specify what the buyer acquires. These provisions warrant, as of the date of the acquisition agreement, such matters as the accuracy of the target’s financial statements; the absence of liabilities for taxes or other matters accruing after the date of the target’s most recently audited financial statements, including contingent liabilities; the ownership and condition of assets, including intellectual property, important to the operation of the target’s business; the absence of pending or threatened litigation against the target; and the absence of problems in particularly important areas, such as environmental and pensions.

When an acquisition agreement is executed and closed simultaneously, the agreement need contain little more than a warranties and representations article. The other two elements of the transactional triumvirate – covenants and conditions – become irrelevant when there is no temporal gap between execution and closing.

More commonly, a significant temporal gap will exist. A regulatory regime may require delay. For example, the regime may require a shareholder vote so that a proxy statement must be prepared and filed with the SEC. The consideration for the merger may be issuer securities whose offer must be registered under the Securities Act of 1933. The Hart-Scott-Rodino Premerger Notification Act may

8 Other subjects, such as the contractual statute of limitations that specifies whether and for how long representations and warranties survive the closing and provisions regarding claims for breach like “baskets” and “caps”, would still demand attention. A basket is the minimum amount that the buyer’s claims must sum to before the claims can be asserted. A cap is the seller’s maximum liability for breaches of the representations and warranties term.
require a filing and a waiting period. Agency approval of the transaction may be required, as with a bank merger. Delay may only reflect regulatory convenience, as when the parties seek a revenue ruling from the IRS concerning the deal’s tax consequences. Finally, delay may result from the nature of the transaction itself; due diligence for some deals can take considerable time. As a consequence of these factors, mergers seldom close within 90 days of execution of the merger agreement, and are sometimes delayed for as long as a year.

Covenants and conditions bridge the temporal gap between execution and closing. Covenants require or prohibit particular verifiable actions, such as complying with regulations or not declaring an unusual dividend. Conditions specify the circumstances that, when absent, permit the acquirer not to close.

Two conditions are of particular significance, and both respond to a hidden action concern. To understand the concern, realize that a seller typically has available to it a set of post-execution actions that would reduce the probability that the value of the proposed new corporate combination would fall in the interim between signing the merger agreement and closing the deal. Certain of these seller actions could affect specific and verifiable aspects of the new company’s business. As examples, the failure to maintain a factory or to police pollution emissions could result in a decline in the factory’s value or an increase in the new firm’s environmental liabilities. The warranties and representations term ensures that the factory is in satisfactory shape and the environmental liabilities sufficiently low at deal execution time to make the merger feasible. The “bring down” condition discharges the buyer’s obligation to close if the seller’s representations and warranties are not true and correct on the closing date as well as on the execution date. This condition thus creates an incentive for the seller to maintain the factory and to
police its emissions.

The MAC condition relates to that subset of seller actions that also would reduce the likelihood of a low value realization for the new company if not taken. The particular effect of not taking these actions, or of taking them badly, cannot conveniently be described in a contract, however. These difficult to describe actions relate to seller investments in integration -- i.e., in synergy -- the effective pursuit of which would reduce the likelihood that the new company would turn out to be worth less than the parties anticipated at deal time. The standard acquisition agreement, we argue, creates an incentive for the seller to invest in synergy by permitting the buyer to exit if the target’s business suffers a “material adverse change”, or experiences an event that results in a “material adverse effect”, on a litany of target characteristics, including the target’s business, its financial condition and the results of its operations.9

Finally, there is a question whether a MAC or MAE would permit a buyer not to close if a value change occurred in consequence of an exogenous event as well as in consequence of an action that the target took or failed to take. The traditional MAC formulation is ambiguous regarding exogenous risk. As an example of the issue, the bring down condition will be satisfied if a company’s backlog is the same at closing as at the deal’s signing. But suppose the target manufactures military

9The MAC term also can be drafted to extend the time period covered by the representations and warranties. Because the current value of the target’s business is the discounted present value of future cash flows, a change occurring in the post-closing/pre-execution period that affects future cash flows would affect the current value of the business, and thus may give the buyer with MAC protection a right not to close even if the express warranties only spoke to current values. This timing issue has been addressed in litigation over whether a simple reference to “business” is sufficient to give the MAC term a forward looking character, or whether an additional term like “prospects” is necessary.
helicopters and that, in the interim between signing and closing, the Defense Department announces a new policy that will substitute planes for helicopters in providing support for attacking troops. The new policy would materially reduce the expected gain from a merger with the target but it was beyond the ability of either party to affect. As we will see, whether parties intend the MAC to impose such an exogenous risk on the seller or the buyer will permit us to distinguish between the symmetry and investment theories.

2.2 Explanations for MACs and changes in MAC practice.

2.2.1 The symmetry theory: the MAC as an offsetting option.

Parties to friendly acquisitions did not worry seriously about hostile competing bids before the 1980s. Economic and legal changes altered this happy state. The capital market and transaction technology evolved such that financing for a competing bid could be raised before a friendly transaction could be closed, thus making real the requirement that target shareholders approve the transaction. A set of Delaware cases also established that target managers were required to accept the highest bid, regardless of their preference for the friendly acquirer. Indeed, the managers were required to seek out the highest bid. In a later round of cases, the courts further restricted the ability of parties to a friendly


deal to prevent the target from considering competing bids by agreeing in the acquisition agreement to “no shop” or “no talk” clauses. The result of these economic and legal innovations was to enable the seller always to accept a higher competing bid or to compel a renegotiation of the price; acquisitions require shareholder approval and the target shareholders would refuse consent to an initial offer in the face of another buyer’s higher bid.

On the symmetry theory, the ability of the seller to go elsewhere, when fully appreciated, would have seriously curtailed acquisition activity in the absence of a MAC. To see why, realize that a friendly acquirer is bound by the merger agreement it had signed while the target is not bound (its shareholders could refuse consent), and target management is legally required to attempt to improve on the buyer’s offer. If the seller’s value at closing time, either to the buyer or to another acquirer, were above the bid price, the seller would either renegotiate the bid price or exit to accept a better offer. If the seller’s ex post value were below the bid price, the seller in a contract without a MAC would make the original deal. The buyer thus would bear the full cost of low realizations but receive only part of the gain (or no gain) from high realizations.

A seller functioning in this economic and legal environment could increase buyer expected gains from mergers, and thereby increase the likelihood that the seller would receive bids, by offering a broadly drafted MAC. Just as the seller would exit if its value turned out to be above the bid price, the


14In many cases, approval requirements for an acquisition are asymmetric as between the seller and the buyer. The seller’s shareholders must approve the transaction. The buyer’s shareholders need not consent, however, so the buyer’s board can make a binding offer to purchase.
buyer now would exit if the seller’s value turned out to be below. Transaction costs would keep the seller in the deal if its value turned out to be slightly high and would keep the buyer in the deal if value turned out to be slightly low. When the standard agreement has a MAC, the acquirer thus no longer commits to purchase the bottom half of a probability distribution, but instead only commits to purchase if the realized value is close to the negotiated price.

This symmetry theory has a testable implication. To create a call for the buyer that is symmetric to the put the Delaware courts gave to the target, the MAC term should shift to the target the risk of exogenously caused reductions in the value of the new corporate combination. In particular, by the late 1980s the MAC clause would clarify the traditional formulation by specifying that the existence of such value reducing factors as unfavorable economic conditions in the general economy or in the target’s industry would permit the acquirer not to close.

2.2.2. The investment theory.

The investment theory rests on the ability of a seller, in the post-execution/pre-closing period, to make relation specific investments that will affect the value of the combined company. These investments fall into three categories. Initially, the success of an acquisition may depend on early efforts to facilitate integration, for example because the acquisition is motivated by the potential for post-

15The symmetry theory has a theoretical gap. A buyer can protect itself against the risk that the seller will abandon the deal when value has risen by taking a toehold stake in the seller or by obtaining a break up fee. See generally Ronald J. Gilson, “Seeking Competitive Bids Versus Pure Passivity in Tender Offer Defenses”, 35 Stan. L. Rev. 51 (1982). The positive role of break up fees in inducing bidder entry is analyzed in Thomas W. Bates and Michael L. Lemmon, “Breaking Up is Hard to Do? An Analysis of Termination Fee Provisions and Merger Outcomes”, forthcoming, J. Financial Econ. (2003). Thus, the parties’ decision to protect the buyer by creating a call option requires further explanation. We focus here on the empirical implications of the theory.
closing synergy. Getting a head start on integration could then be valuable, especially in competitive industries that experience rapid technological change. In such industries, the merger announcement rather than the closing will trigger a competitive response. As examples of investment, the target company may begin the process of integrating its product line with that of the acquirer by suspending or canceling development or improvement of existing products; may freeze investment in capabilities that the acquirer already possesses; may shift its research and development to fit the anticipated post-closing strategic plan; and may discuss with its customers the buyer’s capabilities in markets where the buyer has been a competitor.

The second investment category comprises efforts by the target company to retain the cohesiveness of its work force. The announcement of a friendly transaction could lead employees to suspect lay-offs or unwanted changes in the work environment. These expectations could cause more mobile, and likely more valuable, employees to become less focused on the target and more focused on their own futures, with the potential of an adverse selection cascade. The third investment category focuses on seller efforts to preserve the expected profitability of the new enterprise. A target firm’s customers and suppliers may reconsider their relations with the target in anticipation of the post-closing situation. Also, competitors may attempt to exploit these uncertainties. The failure of a seller to expend effort in retaining a work force and in preserving relations with customers and suppliers in the sometimes lengthy interim between execution and closing thus could materially reduce the value of the

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16 Synergy as an acquisition motive is discussed in Ronald J. Gilson & Bernard S. Black, The Law and Finance of Corporate Acquisitions, Chapter 8 (2d ed. 1995).
Certain of the actions that a seller could take share a common characteristic: they may materially reduce the target’s stand alone value if the deal fails to close. This is particularly true of investments in integration, where the target may reveal information to the buyer that the buyer, or other firms, could use to the seller’s disadvantage. In addition, the competitive cost of strategic steps undertaken in expectation of closing but with negative consequences for the target if the transaction does not close could be substantial in some industries.

The investment theory follows from this story. Regarding the intuition – the model is set out below – suppose that a merger agreement lacks a MAC, and that the value of the proposed corporate combination turns out to be higher at closing time than it was at execution time. The ability of the seller to cancel at will permits a seller to threaten exit in order to renegotiate the price upward. The seller thus has an incentive to take value increasing actions. On the other hand, suppose that the combined company turns out to have a value at closing time that is below the merger price. The seller will then enforce the deal at that price, and so lacks an incentive to take value preserving actions. Commonly, the same set of actions would both preserve and increase value. Thus, the assumed acquisition agreement would be inefficient. The agreement would permit the seller not to optimize against the entire distribution from which the value of the new corporate combination will be drawn; rather, because the

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17The model in Part 3 below uses the phrase “investment” to refer to actions the seller can take to prevent the loss of employees, customers and opportunities. The bring down condition does not create an incentive for a seller to take all of these actions. As examples, a seller does not warrant the continued existence of business opportunities or covenant that it will take actions to mesh its R & D program with that of the buyer.
sellers have called MAC events, sometimes successfully, when, e.g., the seller was late with a product development; it experienced a material shortfall in inventory; its recent revenues dropped substantially; its operating margins declined substantially; it began to experience operating losses; it had a negative accounting net worth in consequence of conducting (bank) mergers without using available government assistance; it incurred large losses in consequence of a recent entry into a new market.

The MAC responds in a subtle way to this moral hazard problem. To see how, assume that parties cannot contract directly on the value the new company would have because values are unverifiable and that it is too costly to describe in a contract the set of value preserving and enhancing seller actions. A MAC permits the buyer to exit if the seller experiences a material adverse “change” or “effect” in its “business or financial condition”. These changes or effects have three characteristics: they would be verifiable if material; they correlate negatively with the value the new corporate combination would have; and the changes or effects would be less likely to occur if the seller took the investment actions described above. The effect of the MAC thus is to reduce the seller’s insurance against low realizations. The seller’s best response is to choose an investment level that is closer to the social optimum.

This theory generates three testable predictions. First, acquisition agreements will have had MACs before the legal developments summarized in Part 2.2.1. Second, MAC drafters will resolve the ambiguity in the traditional MAC formulation by creating exceptions to the traditional MAC; the exceptions would impose exogenous risk on the buyer. Third, the incentive of parties to resolve ambiguity in this way increases when the combination of exogenous risk and the seller’s investment could cause the seller’s stand alone value to fall should the deal not close. Regarding the second

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prediction, a buyer who could cancel for exogenous risk would renegotiate the price downward when the materialization of exogenous risk would cause the deal to become unprofitable for it at the original price. This would allocate more of the exogenous risk to the seller. As we will see, buyers are better able to reduce the impact of and to insure against exogenous risk. Thus, parties should allocate the entire risk to the buyer when the efficiency gains from this risk allocation would exceed the transaction costs of creating MAC exceptions. Regarding the third prediction, when a MAC lacks exceptions, the bargaining game the parties play ex post will allocate to the seller a greater share of exogenous risk when the seller’s value would fall after a failed deal. This further reduces the efficiency of a merger agreement without MAC exceptions, and so increases the parties’ incentive to create them.

It is helpful to make the last two predictions more concrete. The investment theory holds that an efficient acquisition agreement will impose endogenous risk on the seller and exogenous risk on the buyer. The need to make explicit the exogenous risk allocation should become more pressing as exogenous risks become more severe. The increased volatility of capital and product markets in the 1990s thus suggests that explicit MAC exceptions should become more prevalent in that decade. These exceptions would impose exogenous risk on the buyer by excluding from the definition of a material adverse change or effect such matters as unfavorable changes in the general or industry specific economic environment. We then extend this argument to predict that MAC exceptions should be especially common in connection with the acquisition of companies where human capital and technological knowhow are critical inputs, and where technological change is rapid. Such companies, as argued just above, are most exposed to information leakage that could aid competitors, customers and suppliers; to anticipatory defections by employees; and to anticipatory reactions by competitors,
particularly to poach employees and customers. These companies -- technology based targets best fit the description – will more likely suffer declines in stand alone value when deals fail.

3. A MAC model.

3.1 The model.

A risk neutral seller and a risk neutral buyer agree at $t^0$ on the sale of the seller’s company. The seller’s stand-alone value is denoted $v_T$; the acquirer’s stand-alone value is denoted $v_A$; and the value the new company will turn out to have is denoted $v_{AT}$. To simplify notation, $v_{AT} = v$, with $v$ distributed on $[0, v_h]$; $v_h$ is the highest value the combined company can take. If the transaction turns out not to produce surplus, $v = v_A + v_T$; we denote this value $v_{ng}$. The price in the acquisition agreement is $d > v_T$. We assume initially that the agreement does not have a MAC, but it does have the other terms described in Part 2.1 above.

At $t^1$, the seller can take an action, denoted $e$, that will affect the value that the proposed corporate combination will create. The action is referred to as choosing an investment or effort level. The set of potential actions available to the seller, and the various ways in which the actions can be performed, are sufficiently complex so that we assume parties cannot write a contract specifying what an efficient seller investment would be.\(^1\)

\(^{19}\)The contracting cost has two elements. First, it is costly (or impossible) to describe a complex set of actions and the circumstances in which they should be undertaken. Second, it is costly to monitor the seller to ensure that it complied with its contractual obligations. The cost of enforcing a contract clause actually is a cost of writing it. We assume that total writing costs, so defined, are sufficiently great as to preclude contracting directly on the seller’s investment behavior. This is a standard assumption in contract theory models and is consistent with transactional practice. Covenants thus will contain explicit prohibitions rather than specify a set of actions the seller is to perform.
Seller investment is stochastic. The probability that the firm will come to have a value that is less than or equal to any realized value $v$ is $F(v; e)$ given an effort level $e$. We assume that $F(0; e) \neq 0$. Because $v_{ng} > 0$ and $v = 0$ occurs with positive probability, this assumption permits an acquisition to be ex post inefficient (then $v < v_{ng}$). The density associated with $F(\bullet; e)$ is $f(\bullet; e)$. Investment improves this distribution by reducing the likelihood of realizing low values.\footnote{Formally, we suppose that $\frac{dF(v; e)}{de} < 0$ for all $v \in (0, v_{h})$. In other words, if $e > e'$, then $F(\bullet; e)$ strictly dominates $F(\bullet; e')$ in the sense of first-degree stochastic dominance. To ensure interior solutions to optimization problems, we also make the standard assumptions that $f'(v; e) > 0$; $f''(v; e) < 0$; $f(v; 4) < 1$.}

At $t^2$, the parties observe the value the combined company will have.\footnote{Values are assumed to be observable but not verifiable. The motivation for assuming a lack of verifiability is the large expense and considerable time that it takes to value sizable companies in judicial proceedings.} The parties then decide whether to make the deal at the original price $d$, to cancel the deal and renegotiate the price or to abandon the deal. At $t^3$, the parties conclude a deal under the original or under the renegotiated price, or do not transact.

As shown in Part 2.2.1 above, corporate law effectively gives sellers an option not to be bound by the merger agreement. Suppose then that the new company’s value turns out to be high; the seller then will refuse to ratify the deal. This wipes the slate clean legally; the seller is not bound and the buyer need not pay the price $d$. If an acquisition would be ex post efficient, however, there is surplus to share, so the parties will renegotiate. We model renegotiation as a Nash bargaining game with disagreement points that function as threat points: the parties’ bargaining weights are denoted $a_A$ (for
the acquirer) and aₜ (for the target seller), with aₐ + aₜ = 1. The renegotiation surplus is denoted s
where \( s = v - (vₐ + vₜ) = v - vₙg \). Hence, if the target calls the deal off and renegotiates, it will receive
the new price \( dₜ = vₜ + aₜs \), while if the target lets the deal stand its payoff is the original price \( d \). A
seller thus will renegotiate when \( dₜ > d \). We let \( vₘ \) denote the value for the new company that would
satisfy this inequality.

This analysis implies that the combined company’s value can fall within five ranges. If despite
seller investment \( v < vₙg \) is realized, the deal is ex post inefficient. Both society and the buyer would like
the merger to be canceled. If value is between \( vₙg \) and \( vₙ \), the deal is ex post efficient and should be
concluded. If value is less than \( d + vₐ \), however, the buyer would exit if it could; for a deal at \( d \) would
impose a loss of \( v - d \) on it. If target value turns out to be between \( d + vₐ \) and \( vₘ \), the parties will
voluntarily complete the merger at the contract price: the buyer would earn a positive profit and the
seller prefers the price to renegotiation. Finally, if value is above \( vₘ \), the seller calls the deal off and
renegotiates. These ranges are illustrated in Figure 1.

Figure 1

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22This game, which is commonly used in the contract theory literature, requires each party to receive a payoff that equals the payoff of its next best option plus an exogenously determined share of the surplus that remains after the disagreement payoffs have been made. We assume here that the seller’s investment would not reduce its stand alone value to below \( vₜ \). This assumption is relaxed in Part 3.4 below.

23If the buyer were free to exit, it would cancel the deal when the net gain from owning the combined company would be less than the buyer’s stand-alone value; that is, when \( v - d < vₐ \).

24Note that \( vₘ > d + vₐ \) because \( vₘ \) can occur only when the realized value is greater than the expected value while \( d + vₐ \) is the buyer’s break even point, and thus can occur only when realized value is less than the expected value.
Remark 1: The price $d$ is endogenous. The target has already been “produced” before the game begins. Hence, $d$ is bounded from below by the target’s stand-alone value $v_T$. Since targets commonly have some uniqueness, the seller commonly has some bargaining power at the contracting stage. This motivates our assumption that $d > v_T$. It is unnecessary for us otherwise to consider the bargaining game that generates $d$.

Remark 2: Value increases could occur for two reasons. First, though the seller’s investment is specific to a combination with the buyer, the seller’s actions could reveal that it would be a good merger partner for other companies. This will increase the likelihood of receiving outside offers and so increase the seller’s value. Second, the seller’s actions could increase the expected revenue the proposed corporate combination would earn. In either case, the seller in the model will renegotiate when the new company’s value would exceed $v_m$.

Remark 3: Buyers can take two kinds of value affecting actions in the interval between signing a deal and closing it. One kind would protect the new company against exogenous risk. We defer discussion of this action category to Part 3.3 below. The second category is comprised of investments in synergy that may increase the value of the new company. We nevertheless model synergy as a one sided investment problem. The seller will not invest in synergy after a deal closes because it has been paid by then. The buyer can invest in synergy before or after the deal closes. If a buyer’s pre-closing actions would increase the value of the new company sufficiently, the seller would cancel and renegotiate. Since the seller would have bargaining power in the renegotiation, the buyer could not realize the full return from successful pre-closing synergy investments, while the buyer would realize the
full return from successful post-closing synergy investments. Buyers thus have an incentive to delay investing until after the deal is closed. We assume here, in consequence, that it is more important for the standard acquisition agreement to motivate seller synergy investment than to motivate buyer synergy investment.

3.2. The effect of MACs on investment.

The initial question is what investment level the seller should choose from a social point of view. As we assume no externalities, the social surplus from a deal is $s = v - v_{ng}$. Recalling that investment in combination with the ex post state is permitted (in the model) to reduce value, the seller should choose the effort level $e$ that maximizes 

$$
\max_{v_h} \int_{v_{ng}}^{v_h} v f(v; e) dv \quad \xi \quad e
$$

The first order condition for a social maximum is 

$$
\int_{v_{ng}}^{v_h} v f_e(v; e) dv = 1
$$

A merger agreement without a MAC could not create first best investment incentives for two reasons. First, the seller does not have all the bargaining power in the renegotiation game; thus, it could not capture the full return from investment. Second, the contract would set a floor of the price $d$ under the seller’s possible payoffs. If realized value turns out to be in the range $0 - v_{ma}$, the seller will enforce

---

$^{25}$Subscripts denote partial derivatives. Thus, $\xi = \frac{df(v; e)}{de}$. 
The statement in text is not literally correct. When the realized value is in the range \( v_{ng} \) to \( d \), the seller will receive the price \( d \). When the new company’s value turns out to be \( v < v_{ng} \), then, for reasons Part 3.4 develops, if there is no MAC the seller would receive more than the price. This complication is deferred until Part 3.4 because the ex ante efficiency effects of MACs can be sufficiently appreciated when it is assumed that in the absence of a MAC, the seller either receives the price or a high return state payoff (in a renegotiation).
v_A, however, the buyer will use the MAC to cancel the deal. The parties will then renegotiate. The seller will receive a share of the ex post value of the combined company, but the expected value of this, by definition, is less than the original price d. Hence, the seller now bears part of the cost from low realizations.

Formally, when the merger agreement has a MAC the seller chooses e to maximize

$$\max_{v_A} \int_{v_{ng}}^{d+v_{A}} \left[ d \int_{v_{ng}}^{v} f(v;e) dv \right] \left[ \int_{v_{ng}}^{v} \left( F(v;e) \right) \right] d \varepsilon$$

The second term is the seller’s expected payoff when value turns out to be in the range v_{ng} to d + v_A, the buyer uses the MAC to exit and the parties then renegotiate the price. The third term in the expression is the expected value of receiving the price d. The seller’s first order condition for a maximum with a MAC becomes

$$\max_{v_A} \int_{v_{ng}}^{d+v_{A}} \left[ d \int_{v_{ng}}^{v} f(v;e) dv \right] \left[ \int_{v_{ng}}^{v} \left( F(v;e) \right) \right] d \varepsilon$$

The left hand side of (3) is larger than the left hand side of (2), thereby implying that the seller has a greater incentive to invest when the contract has a MAC than when it does not. As said, with a MAC the seller is “insured” over a smaller part of the possible return space and at risk over a larger portion of that space. As a consequence, the seller’s incentive to invest is increased. This reasoning yields

**Proposition 1:** A MAC increases to a level that is closer to the socially optimal level the seller’s incentive to take actions in the post-execution/pre-closing period that would reduce the likelihood of low realizations.

**Remark 4:** A seller’s incentive to invest would improve if the seller could make a take it or leave it offer to the buyer at the ex post bargaining stage. The contract theory literature exhibits
mechanisms that permit such offers\textsuperscript{27}. We exclude these mechanisms from consideration because they are not robust to renegotiation without material legal change.\textsuperscript{28}

Remark 5: The traditional MAC is an unusual term from a contract theory point of view because it is a standard (“material adverse change”) rather than a rule. Standards are less costly for parties to create than rules.\textsuperscript{29} Contracting parties, however, commonly prefer to create rules when the discretion that a standard confers would provide an opportunity for moral hazard. For example, section 2-615 of the Uniform Commercial Code permits a seller to avoid a contract if its performance “has been made impractical by the occurrence of a contingency the non-occurrence of which was a basic assumption on which the contract was made ....” A seller for whom a contract has turned out badly has an incentive to breach in the hope that the vagueness of this standard would permit it to avoid liability. Parties routinely respond by contracting out of section 2-615 in favor of writing precise force majeure clauses. In contrast, here the party with discretion has appropriate incentives. The MAC, that is, permits the buyer to exit when realized value is low, and it is the buyer’s credible threat so to act that improves the seller’s incentive to invest. Parties to merger agreements thus can realize the virtues of a


\textsuperscript{29}It is easier to tell a party to behave “reasonably” than to tell the party just what it should do.
standard without increasing their incentive to engage in moral hazard.

3.3 Exogenous risk and MAC exceptions.

Neither party, by definition, can affect whether an exogenous value affecting risk will materialize. The buyer is the more efficient risk bearer, however. To see why, it is helpful first to remark that if exogenous events cause the value of the corporate combination to fall below the parties’ stand alone values \( v < v_{ng} \), the buyer will exit regardless of what the contract provides.\(^{30}\) Hence, the parties’ problem is to allocate exogenous risk for states of the world in which the deal is ex post efficient \( v > v_{ng} \), and thus will close. Then realize that the two most common categories of exogenous risk are changes in industry or general economic conditions and changes in legal regulations. Value reductions on account of these risks ordinarily are long term. An industry recession, for example, likely will last for a longer period than the interim between signing a merger agreement and closing the deal. That exogenous risk commonly is lasting has two relevant consequences. First, the buyer will be in control of the new company for much of the period during which the exogenous events create difficulty. As a result, the buyer has a much greater opportunity than the seller to guard against or to cushion the effect of exogenous shocks. This suggests that allocating risk to the buyer would be efficient.\(^{31}\) Second, the effect of buyer actions – e.g., positioning the company for an economic upturn – ordinarily would be realized after the deal closes. If the buyer did bear exogenous risk, then, its incentive to invest against it

\(^{30}\)The parties’ actions when a deal would be ex post inefficient are considered in Part 3.4 below.

\(^{31}\)In Commercial Law, exogenous risk commonly is allocated to the party that has control of the goods. See, e.g., Uniform Commercial Code §2-509 allocating the risk of loss or destruction of the goods to the seller in the period after the contract is made but before tender of delivery.
would not be reduced on account of the seller sharing in the gains.\textsuperscript{32} This reenforces the efficiency of allocating exogenous risk to the buyer.

Relating these considerations more directly to the MAC term, exogenous risk makes relevant two possible states of the world. First, the materialization of exogenous risk would reduce the value of the new company, but that value would still be such as to permit the buyer to make a positive profit at the merger price \( d \). In this event, the MAC’s risk allocation would not matter because the deal would close at \( d \) and the buyer would bear the full cost of the exogenous change or effect. This gives the buyer an incentive to take value preserving or insuring actions. Second, the materialization of exogenous risk causes the value of the new company to fall such that the buyer would incur a loss if it bought at the merger price. If the MAC imposed exogenous risk on the buyer, it again would pay \( d \); as a consequence, the buyer would optimize against more of the return distribution that exogenous risk could generate. In contrast, if the seller bore exogenous risk, the buyer would cancel the deal in the low return state and the parties would renegotiate to split the deal’s surplus \( s \).\textsuperscript{33} The renegotiation price would be \( d_1 = v_T + a_T s < d \) because the buyer could not make a profit at the original price.

Renegotiation thus would impose part of the exogenous risk on the seller. Anticipating this outcome, the buyer would not optimize against a material portion of the return distribution that exogenous risk could produce. Since the buyer is the more efficient risk bearer, the buyer would be investing too little in risk cushioning or insuring activities. This analysis predicts that parties would clarify the traditional MAC formulation by allocating exogenous risk to the buyer – imposing more of the return distribution

\textsuperscript{32}See Remark 3 above.

\textsuperscript{33}Recall that the surplus is \( s = v - v_{ng} \), where \( v_{ng} \) is the sum of the parties’ stand alone values.
on it – when the efficiency loss from an unqualified MAC would exceed transaction costs.

We can extend this analysis to the case where the failure of a deal to close would reduce the seller’s stand alone value. Again consider the case where the materialization of exogenous risk would cause the value of the new company to fall below the buyer’s break even point. If the parties fail to conclude a deal, the buyer’s stand alone value would remain $v_A$ but the seller’s stand alone value now is assumed to fall to $v_T - \delta v_T$. The surplus from doing the deal thus would increase to $s^+ = v + \delta v_T - v_{ng} > s$. Therefore, when the agreement contains an unqualified MAC and the buyer cancels to initiate a renegotiation, the renegotiation price will be below, by the amount $a, \delta v_T$, the renegotiation price calculated above, when a deal’s failure was assumed not to affect the seller’s stand alone value. As a consequence, the seller now bears more exogenous risk than before and the buyer’s incentive to take value cushioning activities correspondingly diminishes. Put another way, when a failed deal would cause the seller’s stand alone value to fall, the width of the value distribution against which the buyer should optimize has widened, but an unqualified MAC could not appropriately increase the buyer’s incentive to act. The efficiency loss from an unqualified MAC thus is largest in the value reduction case, so MAC exceptions are more likely to be seen there. We summarize this reasoning in

**Proposition 2:** Transaction costs aside, it is efficient for the standard acquisition agreement to allocate endogenous risk to the seller and exogenous risk to the buyer – to contain a traditional MAC qualified by a set of MAC exceptions.

**Remark 6:** The likelihood that MAC exceptions are present in an acquisition agreement should be higher in industries where the failure of a deal to close would result in a fall in the seller’s stand alone value. For the reasons given in Part 2.2.2 above, technology mergers will most often fulfill this
Remark 7: MAC exceptions should more closely resemble rules than standards. The phraseology of the traditional MAC arguably comprehends both endogenous and exogenous risk. This ambiguity is best clarified by rules. In addition, the materialization of an exogenous risk that would materially lower the value of a corporate combination sometimes would be verifiable; hence, parties could contract directly on it.

3.4. MACs and ex post efficiency.

MACs efficiently reduce the buyer’s exit cost relative to contract law when a deal would be ex post inefficient. If there were no MAC and the buyer breached, the seller could not prove market damages because these would be the difference between the contract price and the target’s stand-alone value and, we assume, values are unverifiable. In such cases, however, courts routinely award specific performance, which would require the buyer to pay $\text{d}$. The buyer would complete the deal when $\text{v} \leq \text{v}_{\text{ng}}$ and purchase the right to exit otherwise. In the latter case, the “breach surplus” – the loss from performance that breach would avoid – is $\text{v}_{\text{ng}} - \text{v}$. The buyer could exit by paying the price $\text{d}$ and a share of this surplus. Therefore, renegotiation yields ex post efficiency under contract law.

A MAC also generates only efficient performances, but where no exceptions apply, the buyer could cancel whenever $\text{v} < \text{d}$. The parties will renegotiate to perform when $\text{v} \geq \text{v}_{\text{ng}}$ and let the cancellation stand otherwise. When performance would be inefficient, then, the buyer’s exit price when the agreement has a MAC is zero. Therefore, while the parties’ ability to avoid inefficient deals is

\footnote{In the analysis to here, the ex post value of the proposed new company always equaled or exceeded the sum of the parties’ alone values. We now consider the case when the new company’s ex post value would be below this sum.}
unaffected by whether the agreement has a MAC, efficiency is achieved under a MAC at lower cost. This relaxes buyer participant constraints and thus increases the set of value increasing deals parties can do. We can summarize this logic with

*Proposition 3:* Parties will conclude only ex post efficient deals, whether the standard agreement contains a MAC or not, but MACs relax buyer participation constraints relative to contract law.

4. Preliminary data and analysis.

The symmetry and investment theories support different hypotheses regarding MACs and MAEs, as follows:

- \( H1_s: \) The traditional MAC clause – a term without exceptions – should become prevalent after 1985.
- \( H1_i: \) The traditional MAC clause should have been used long before 1985.
- \( H2_s: \) MAC exceptions should impose the risk of an exogenously caused decline in the combined company’s value on the seller.
- \( H2_{i(1)}: \) MAC exceptions should impose the risk of an exogenously caused decline in the combined company’s value on the buyer.
- \( H2_{i(2)}: \) MAC exceptions should be more prevalent in industries in which human capital is a significant asset and technological change is rapid.

These hypotheses have been motivated in Part 2.2 above. To summarize briefly, the symmetry theory cannot account for the early existence of MACs because the term functions in the theory only to create an offsetting call to the seller’s put option. That option became significant in consequence of

\[35\] Subscripts denote theories. Thus, \( H1_s \) is the initial hypothesis of the symmetry theory.
economic and legal developments that took place in the 1980s. In our view, by contrast, MACs should always have been present because they function to encourage the seller to take affirmative actions that would preserve (or increase) the value that the parties expect the new enterprise to have. This explains the two H1 hypotheses. Regarding H2, under the symmetry theory the seller should bear exogenous risk because this makes the buyer’s offsetting call option more effective. Under the investment theory, there is no need to impose exogenous risk on the seller, and since the buyer is a more efficient risk bearer than the seller, the buyer should bear this risk. Moreover, the gains to the parties from imposing exogenous risk on the seller are more likely to exceed contracting costs when synergy investments in a deal that fails to close could reduce the target’s stand alone value. For the reasons given above, these are the industries to which H2 refers.

Systematic data on MACs and MAEs for the years before 1980 is difficult to get. Our impressionistic evidence, from memory, lawyer interviews and the professional literature, suggests that the traditional MAC was widely used in the pre-1980 era. This weak evidence is consistent with the investment theory.

We were able to test H2 a little more systematically. The set of acquisition agreements on which we report below are insufficient conclusively to refute either theory. Rather, the data is suggestively inconsistent with the symmetry hypotheses and suggestively supports the investment hypotheses. This evidence together with the theory Part 3 develops cause us preliminarily to conclude that the investment story best explains the presence of MACs in acquisition agreements and the form that MACs take.

36See Freund, supra note 4.
To secure contracts, we downloaded from the Securities and Exchange Commission’s EDGAR site random samples of acquisitions announced in 1993, 1995 and 2,000. These samples included the terms “material adverse change”, “material adverse event” or both. We then asked whether the generic MAC or MAE formulation – no material adverse change in the business, financial condition, or results of operations – was modified by explicit inclusions or exclusions from the generic formulation. The merger agreements were coded for the presence of the following categories of events: (1) changes in global economic conditions; (2) changes in U.S. economic conditions; (3) changes in global stock, capital or financial market conditions; (4) changes in U.S. stock, capital or financial market conditions; (5) changes in the economic conditions of other regions; (6) changes in the target company’s industry; (7) changes in applicable laws or regulations; (8) changes in the target company’s stock price; (9) loss of customers, suppliers or employees; (10) changes due to the agreement or the transaction itself; (11) a miscellaneous category. The agreements also were coded for two qualifications of the definition of a material adverse change. These qualifications would make a specified change or effect irrelevant for MAC purposes if the change either specifically affected the target company or had a materially disproportionate effect on the target company.  

A preliminary analysis of the data from the three sample years appears in Tables One -Three.

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37. This exception to MAC exceptions apparently rests on the view that the seller can cushion the shock of an exogenous change that would affect it but not similar firms, or that would affect it disproportionally. Such risks therefore seem more endogenous than exogenous.
<table>
<thead>
<tr>
<th>Year</th>
<th># of Trans.</th>
<th>% (#) with one or more MAC Exlus.</th>
<th>% (#) Global Econ. Cond.</th>
<th>% (#) U.S. or General Econ. Cond.</th>
<th>% (#) Global Stock/ Capital Market Cond.</th>
<th>% (#) U.S. Stock/ Capital Market Cond.</th>
<th>% (#) Other Region Econ. Cond.</th>
<th>% (#) Target Industry Cond.</th>
<th>% (#) Change in Law or Reg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>60</td>
<td>18.33 (11)</td>
<td>0</td>
<td>10.0</td>
<td>0</td>
<td>1.67 (1)</td>
<td>0</td>
<td>5.00 (3)</td>
<td>3.33 (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>63</td>
<td>31.74 (20)</td>
<td>0</td>
<td>10.00</td>
<td>0</td>
<td>1.67 (1)</td>
<td>0</td>
<td>5.00 (3)</td>
<td>3.33 (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>77</td>
<td>80.52 (62)</td>
<td>11.69 (9)</td>
<td>63.36 (49)</td>
<td>9.09 (7)</td>
<td>36.36 (28)</td>
<td>6.49 (5)</td>
<td>66.23 (51)</td>
<td>25.97 (20)</td>
</tr>
</tbody>
</table>

*totals more than 100%
### Types of Exclusions

<table>
<thead>
<tr>
<th>Year</th>
<th># of Trans.</th>
<th>% (#) with one or more MAC Exclus.</th>
<th>Target Stock Price</th>
<th>Loss of Customers, Suppliers, Employees</th>
<th>Changes due to Agmnt or Transaction</th>
<th>Misc.</th>
<th>Unless Change Specifically Affects Seller</th>
<th>Unless Materially Disproportion. Effect on Seller</th>
</tr>
</thead>
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<tr>
<td>1993</td>
<td>60</td>
<td>18.33 (11)</td>
<td>1.67 (1)</td>
<td>0</td>
<td>0</td>
<td>1.67 (1)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1995</td>
<td>63</td>
<td>31.74 (20)</td>
<td>0</td>
<td>0</td>
<td>4.76 (3)</td>
<td>14.29</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2000</td>
<td>77</td>
<td>80.52 (62)</td>
<td>18.18 (14)</td>
<td>9.09 (7)</td>
<td>55.8 (43)</td>
<td>18.18 (14)</td>
<td>15.58 (12)</td>
<td>20.78 (16)</td>
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**Qualifies applicability of exclusion; e.g.; change in U.S. conditions is not excluded if the change specifically affects or has a materially disproportionate effect on the seller.**
TABLE TWO

Prevalence and Characteristics of MAC and MAE Exclusion for 1995 by Industry

<table>
<thead>
<tr>
<th>Industry</th>
<th># of Trans.</th>
<th>Avg. # of Excl.</th>
<th>% (#) with one or more MAC Excl.</th>
<th>Types of Exclusions*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(a) (%) (b) (%) (c) (%) (d) (%) (e) (%) (f) (%) (g) (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Technology</td>
<td>54</td>
<td>0.69</td>
<td>29.6 (16)</td>
<td>1.9 (1)</td>
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<td></td>
<td></td>
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<td></td>
<td>14.8 (8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td>0 (1)</td>
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<tr>
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<td>14.8 (8)</td>
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<tr>
<td>Technology</td>
<td>9</td>
<td>0.55</td>
<td>44.4 (4)</td>
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<td>0 (1)</td>
</tr>
<tr>
<td>Total 1995</td>
<td>63</td>
<td>0.67</td>
<td>31.74 (20)</td>
<td>1.58 (1)</td>
</tr>
<tr>
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<td>12.7 (8)</td>
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</tbody>
</table>

*totals more than 100%

**Technology is defined narrowly in this set to only include engineering, computer, biotech, and industrial instruments. Transactions that involve companies that are technology-related, but primarily classified in another industry, are not included in this definition.
Qualifies applicability of exclusion; e.g.; change in U.S. conditions is not excluded if the change specifically affects or has a materially disproportionate effect on the seller.
### TABLE THREE

Prevalence and Characteristics of MAC and MAE Exclusion for 2000 by Industry

<table>
<thead>
<tr>
<th>Industry</th>
<th># of Trans.</th>
<th>Avg. # of Excl.</th>
<th>% (#) with one or more MAC Excl.</th>
<th>Types of Exclusions*</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<td>(a)</td>
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<tr>
<td>Non-Technology</td>
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<td>3.70</td>
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<td>16.4 (11)</td>
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<td>65.7 (44)</td>
<td>% (#) Global Stock/ Capital Market Cond.</td>
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<td>49.3 (33)</td>
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<td>4.5 (3)</td>
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<td>73.1 (49)</td>
<td>% (#) Change in Law or Reg.</td>
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<td>Technology**</td>
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<td>4.09</td>
<td>87.9 (29)</td>
<td>% (#) Global Econ. Cond.</td>
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<td>21.2 (7)</td>
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<td>75.7 (25)</td>
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<td>27.0 (27)</td>
<td>% (#) Change in Law or Reg.</td>
</tr>
</tbody>
</table>

* totals more than 100%

** Technology is defined narrowly in this set to only include engineering, computer, biotech, and industrial instruments. Transactions that involve companies that are technology-related, but primarily classified in another industry, are not included in this definition.
<table>
<thead>
<tr>
<th>Industry</th>
<th># of Trans.</th>
<th>% (#) with one or more MAC Excl.</th>
<th>Types of Exclusions</th>
<th>Qualifications***</th>
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</thead>
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<td></td>
<td></td>
<td>(a)</td>
<td>(b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% (%) Target Stock Price</td>
<td>% (%) Loss of Customers, Suppliers, Employees</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% (%) Changes due to Agmnt. or Transaction</td>
<td>% (%) Misc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% (%) Unless Change Specifically Affects Seller</td>
<td>% (%) Unless Materially Disproportion. Effect on Seller</td>
</tr>
<tr>
<td>Non-Technology</td>
<td>67</td>
<td>86.6 (58)</td>
<td>7.5 (5)</td>
<td>3.0 (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>58.2 (38)</td>
<td>20.9 (14)</td>
</tr>
<tr>
<td>Technology*</td>
<td>33</td>
<td>87.9 (29)</td>
<td>51.5 (17)</td>
<td>30.3 (10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>66.7 (22)</td>
<td>24.2 (8)</td>
</tr>
<tr>
<td>2000 Totals</td>
<td>100</td>
<td>87.0 (87)</td>
<td>22.0 (22)</td>
<td>12.0 (12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60.0 (60)</td>
<td>22.0 (22)</td>
</tr>
</tbody>
</table>

***Qualifies applicability of exclusion; e.g.; change in U.S. conditions is not excluded if the change specifically affects or has a materially disproportionate effect on the seller.
The Table reveals a significant shift in transaction practice respecting MACs and MAEs. In 1993, only 18.33% of MAC or MAE clauses included one or more event specifications that restricted the buyer’s right to exit; more than half of these stated a single event. In 1995, the percentage of clauses with an event specification had increased to 31.74%. By 2000, event specifications had become mainstream. Approximately 80% of the sample merger agreements featured at least one MAC or MAE exclusion, with an average of 3.9 per transaction.

Table One also rejects H2S in favor of H2I. We observe no evidence that exceptions to MAC clauses have expanded to give acquirers an option to abandon on the occurrence of a value reducing exogenous change to match the target company’s option to abandon on the occurrence of a value increasing exogenous change. To the contrary, almost two-thirds of the transactions in the 2000 sample exclude from the definition of a MAC or MAE the two most obvious examples of exogenous risk: changes in the U.S. economy and changes in the target company’s industry. The data also permit us to distinguish between technology and non-technology mergers for the years 1995 and 2000.38 This evidence is consistent with H2I, that the change in acquisition practice may have begun in connection with, and is more significant in, high technology acquisitions. This would be because the danger of reductions in a target’s stand alone value is more serious there. In 1995, 29.6% of non-technology acquisition agreements had one or more MAC exclusions while 44.4% of technology acquisition agreements had one or more MAC exclusions.

acquisitions had these exclusions. Part 2.2.2 argued that the risk of customer, supplier or employee
loss was greater in connection with high tech mergers. The 2000 data show that 3% of non-technology
acquisition agreements but 30.3% of technology agreements excluded from the definition of a material
adverse change the loss of customers, suppliers or employees. Part 2.2.2 also argued that high tech
firms would be more likely to experience a general reduction in stand alone value from a failed deal.
The 2000 data indicate that 7.5% of non-technology acquisition agreements but 51.5% of technology
acquisition agreements excluded from the definition of a material adverse change a decline in the
target’s stock price. Such a decline is likely if the target would lose value in consequence of a failed
deal because the market realizes that not all deals close. Parties to technology mergers thus seem more
inclined to restrict the buyer’s right to exit than parties to mergers generally.

The changes in corporate law and in the technology of financing acquisitions that operate to give
the target an effective put option are real, so it is striking not to observe their impact on the element of
the transaction structure – the MAC term – that apparently could most directly respond to this problem,
by creating an offsetting call. The phenomena that underlie the investment theory also are real. A
workable transaction fix must respond effectively to both actual concerns. This paper’s explanation is
that the MAC responds to the investment concern and that a buyer’s ability otherwise to protect itself
against exogenously caused value declines\(^{39}\) explains the parties’ decision to restrict the MAC to
investment considerations alone.

It is interesting to speculate briefly on the widespread diffusion of MAC exceptions. The New

\(^{39}\)See note 15 above.
York Supreme Court’s decision, in the *Jardine* case\(^{40}\), to send to the jury a buyer’s invocation of the traditional MAC to justify its exit following the 1987 stock market crash prompted transaction lawyers to focus on the ambiguity in the traditional MAC and MAE formulation regarding exogenous risk. As the analysis in Part 3.3 above suggested, the transaction costs of this focus are more likely to be below the gains for technology acquisitions in which the materialization of exogenous risk can cause the most difficulty. An innovation here might have diffused widely through Silicon valley in consequence of repeated interactions among networks of M & A lawyers.\(^{41}\)

As is apparent from our 2000 sample, the next step was the spread of the new MAC and MAE practice across industries. This spread may have been due to the nature of judicial interpretation. Lawyers would expect that judicial construction of traditional MAC terms that they drafted would be influenced by changes in those terms elsewhere. In particular, courts may draw inferences from the absence of MAC exceptions in some transactions and their presence in others regarding the purposes of the parties in the deals before them that could be well wide of the mark. Innovation in high tech deals thus could have reduced the predictability of merger litigation generally. Transaction lawyers could come to believe that this increase in juridical risk would justify the creation of some type of MAC exception in many deals – the traditional MAC adjusted to the particular transaction.

5. Legal and drafting implications.


A later version of this paper (or another paper) will analyze the extensive case law regarding MACs and MAEs. We comment briefly here on what is thought to be the most important case, *In re IBP, Inc. Shareholders’ Litigation*[^42], and we introduce an interpretive criterion for MAC adjudication. Vice Chancellor Strine faced in *IBP* a traditional, and thus ambiguous, MAC and he attempted to make the term more concrete: A MAC event, he held, was “a significant diminution of the value of the business entity as a whole”. This well meaning effort to deal with ambiguity in the traditional MAC formulation was unsatisfactory for two reasons. First, parties to merger agreements, we have seen, have begun to negotiate detailed MAC exceptions, thereby lessening the need for a legal default rule. The issue courts now face is how to interpret the contract, not how to fill in the blanks. Second, Chancellor Strine’s proposed default itself is off the mark because it focuses on clarifying the adjective “material” rather than on distinguishing between endogenous and exogenous causes of a decline in the value of the combined company. Materiality refers to the extent of a value change but, had values been verifiable, the MAC term would have contracted directly on them. Rather, parties prefer courts to focus on causes.[^43]

The investment theory supplies an interpretive criterion for a judicial inquiry into causation. When a buyer attempts to exit by calling a MAC event, the court should ask whether the event was


[^43]: A commercial law analogy may be clarifying. The Uniform Commercial Code excuses a seller from performance when subsequent events make performance “impracticable”. This phrase directs courts to focus on the loss the seller would have suffered from performance. Profits and losses are difficult to verify, however. Parties thus routinely replace the UCC with force majeure clauses that list verifiable excusing events – fire, war, legal regulation – whose materialization would ordinarily cause the seller to incur large losses.
within the seller’s ability to affect. As an example of this distinction, let a MAC contain an exception regarding economic conditions in the parties’ industry. The exception should keep the buyer in the deal if a material decrease in the seller’s profitability was caused by a sudden, but apparently permanent, increase in imports in the industry. On the other hand, the buyer should be permitted to exit if the decline was caused by an increase in input costs against which the seller could have, but failed to, hedge. Here, however, attention should shift to the concept of “change” in the MAC formulation. If it had not been the practice of firms such as the seller to hedge the particular risk, then, we suggest, the relevant change should be held to be exogenous – the realization of an external risk – rather than endogenous – that is, caused by actions the seller took or failed to take.

Interpretive criteria for MACs are an important subject because the current inventory of MAC exclusions retain what may be an inherent ambiguity. For example, consider the “exception to the exception” that permits a buyer to exit when exogenous events that otherwise would have been covered by an exception to the MAC clause have a disproportionate impact on the seller in light of the interpretation of the “change” requirement we just suggested. Such a disproportionate impact could be relevant to interpretation in two opposing ways. First, it may suggest that the target had actions available to it that would have prevented or lessened the impact of the apparently exogenous event. If so, the exception to the exception should apply, so that the buyer could exit if it wished. Second, the impact may be a consequence of the seller following a high beta strategy that was efficient for it; the seller, that is, may have been investing less in risk cushioning activities and more in production activities

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44See text at note 30 above and note 30. These exceptions appeared in none of our 1993 contracts but in 20% of the 2000 contracts.
than some of its competitors. If so, the exception to the exception probably should not apply because it is uncommon for parties to intend a seller to take actions that would differ materially from its pre-transaction practice without saying so; costly, deviant actions would usually be an expressed part of the agreement’s operating covenants were they meant to be taken.

Further analysis of interpretive criteria for MACs awaits further research but we make two concluding remarks. Initially, courts sometimes appear to suspect that a buyer who calls a MAC event is merely reneging on a deal that turned sour. Such courts attempt to resolve ambiguities in the MAC term against the buyer. This attitude is in considerable part mistaken because it is the threat of buyer exit that efficiently increases the seller’s incentive to take actions that reduce the probability of bad realizations. Second, parties could aid courts by prefacing the MAC and MAE term with a discursive statement of what they intended the term to promote and to avoid. As an example, the parties could ask courts to use the interpretive criterion suggested here. Such a drafting approach would leave courts with much less discretion than Chancellor Strine actually had or wanted to have; rather, a court’s residual discretion would be channeled in a fashion that would reflect the parties’ now explicit goals.

6. Conclusion.

Tens of billions of dollars of assets transfer each year under what is essentially the same acquisition agreement. This agreement has received little academic analysis despite its commercial significance. Our paper begins such an analysis by examining an important set of merger terms, the material adverse change clause and the material adverse event clause. We ask why these terms are in the agreement and why their formulation has changed substantially over the years.

We conclude that the clauses’ presence results from two problems that parties to mergers face,
both of which are a consequence of the sometimes lengthy interim between the signing of a merger agreement and its conclusion. The first problem is to induce the seller to make efficient value preserving and value enhancing investments in the deal; the second problem is to induce the buyer to take precautions against or to insure against exogenous events that could reduce the value of the new corporate combination. These problems require creative contractual solutions because, we assume, courts cannot observe the value of the new company or the value affecting actions that a seller and buyer could take; and it would be too costly for parties to create behavioral codes that courts could merely enforce.

The MAC term solves these problems in a simple but nice way. The traditional MAC permits a buyer to exit when a material adverse change or effect would make the deal unprofitable for it. The buyer’s exit right encourages the seller to take actions that would protect and possibly enhance the value that the new company is expected to take. The set of MAC exceptions, in contrast, encourages the buyer to take actions that would protect the new company against the materialization of risks that neither party could prevent but that the buyer could best affect. The MAC term thus allocates transaction risks to the party that can most efficiently bear them.

We also report the results of our empirical analysis of actual MAC terms. This analysis is preliminary, but its results are consistent with the explanations we advance here. In particular, our theory predicts that MACs will have been in use for a long time; that ambiguities in MACs will be resolved by allocating endogenous risk to sellers and exogenous risk to buyers; and that MAC exceptions should be more likely to appear in cases when a failed deal would reduce the seller’s stand alone value. The data we have support these predictions. And finally our analysis supplies interpretive
criteria that could aid courts when interpreting the MAC term. We uncover the parties objectives in writing this term – to create incentives for the party that can best preserve or increase value to do so. The interpretive task should be eased for courts when they understand what the parties are attempting to achieve.

April 30, 2003