**A Simple Theory of Russian Roulette Provisions**

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*An even allocation of control-rights in close firms is common and an inherent feature of close firms with two shareholders with a 50%-50% equity interest. Such arrangements come with the risk that the quest for unanimity may lead to so-called shareholder deadlocks – that is, the paralysis of the firm’s decision-making process at the shareholder level.*

*Shareholder deadlocks often leave the deadlocked shareholders with no option other than going for a so-called buyout – a transaction whereby one deadlocked shareholders buyout the other out.*

*Insofar as no other private ordering-based solution is available, the default technique for a buyout are extemporary negotiations. Contract offers an alternative: so-called “*Russian Roulette provisions*”, which in their simplest design require one deadlocked shareholder (the “triggering shareholder”) to serve a notice to the other shareholder (the “non-triggering shareholder), naming an all-cash price at which it values on a* pro rata *basis his shareholding. The non-triggering shareholder has then the option to either buy the triggering shareholder out or sell out to him at the established price.*

*The Article seeks to compare and contrast extemporary negotiations and the buyout procedure stemming out of Russian Roulette provisions in terms of their ability to lead to fair buyouts. It shows that, overall, the buyout procedure stemming out of Russian Roulette provisions are more effective than extemporary negotiations in leading to fair buyouts.*

*Building on this comparative assessment, it then discusses the role that regulation can play in this context.*

*Overall, the discussion articulated may prove useful in two main respects. On the one hand, it can support a more nuanced and consistent approach to law making and adjudication by legislators and judges, respectively. On the other hand, it may enrich the theoretical legal discussion, which has thus far looked at these private ordering-based solutions through merely formalistic lenses and has therefore fallen short of gaining a full understanding of both their virtues and vices.*

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# *Introduction*

The governance of close firms is often the function of a variety of private ordering-based solutions enshrined in a set of formally distinct but in fact intertwined contracts that allocate control-rights among shareholders *evenly* through so-called “control-sharing arrangements”. [[1]](#footnote-1) Close firms with two shareholders with a 50-50% interest in the firm are the most pertinent example.

By subordinating decision-making to unanimity, control-sharing arrangements do intuitively come with the threat of so-called “shareholders deadlocks”.[[2]](#footnote-2) Shareholders deadlocks emerge when shareholders cannot agree as to a fundamental business policy, causing a paralysis in the firm’s decision-making process.

One viable solution to shareholder deadlocks are so-called “buyouts”, transactions instrumental to causing one deadlocked shareholder to divest so to concentrate control-rights in the hand of only shareholder who would then able to retrieve the deadlocked firm from the Serbonian bog into which it had fallen.

Being just another means to allocate firm value (here taken to be the to-present-discounted value of all future cash flows[[3]](#footnote-3)) through price-setting, buyouts can be either “fair” or “unfair”, depending on whether each deadlocked shareholder captures or does not capture his own *pro rata* share of post-deadlock firm value. A buyout is fair when, as per contract, each deadlocked shareholder captures his own *pro rata* share of post-deadlock firm value. A buyout is unfair when the deadlocked shareholders capture a fraction of post-deadlock that is inconsistent with original contract stipulations.[[4]](#footnote-4)

In theory, several transactional techniques for a buyout are available. Two such techniques are extemporary negotiations and the buyout procedure for which Russian Roulette provisions make the bed.

The discussion articulated herein considers how effective these two buyout techniques are in leading to fair buyouts. In essence, it shows that Russian Roulette provisions and the ensuing buyout procedure are overall more effective than extemporary negotiations in supporting the deadlocked shareholders’ quest for fair buyouts. Building on this partial conclusion, the discussion also frames the role of legal intervention (simply “regulation”[[5]](#footnote-5)). Regulation should support the adoption of Russian Roulette provisions as well as addressing their dysfunctionalities through safeguards and remedies that - whether coming in the form of ex-ante rules or ex-post standards – may counteract present malfeasance and indirectly deter future wrongdoing.

A couple of qualifications help defining the scope of this analysis. First, Russian Roulette provisions here are taken for their design, not their denomination.[[6]](#footnote-6) Nor is important whether such private ordering-based solutions are part to the firm’s constitutional documents or a component of ancillary shareholder agreements. The actual perimeter of the discussion ought to be defined accordingly. Second, the focus here is on the scenario in which deadlocked firm has only two shareholders who hold two equal shareholdings, but it is generalizable to other situations. One such situation is that in which there are more shareholders who coalesce into two fractions and/or the deadlocked shareholders have unequal equity stakes, provided that price is to be set on a mere *pro rata* basis.[[7]](#footnote-7)

The discussion articulated is useful two main respects. On the one hand, it can support a more nuanced and consistent approach to law making and adjudication by legislators and judges, respectively. On the other hand, it may enrich the legal discussion, which has thus far looked at these private ordering-based solutions through merely formalistic lenses, thus falling short of appreciating the value of decentralized law-making in this context and theorizing legal intervention consistently.

The discussion unfolds as follows. Section 2 sets the stage by discussing close firms. Section 3 discusses shareholders deadlocks and buyouts. Section 4 considers extemporary negotiations qua technique for a buyout, analysing bargaining dynamics in both a symmetric and an asymmetric bargaining environment. Section 5 turns its attention on Russian Roulette provisions and the ensuing buyout procedure, examining their functioning under conditions of perfect and imperfect symmetry. Section 6 theorizes briefly the role of regulation, accounting for its rationale, discussing its goals and hinting at its possible design. Section 7 concludes by summarizing the discussion articulated herein and sketching the avenues for complementary research.

# *Setting the Scene: Close Firms*

## Idiosyncratic Problems and Contractual Responses

The public discourse, the policy debate and the academic engagement tend to focus predominantly on the problems plaguing large public firms,[[8]](#footnote-8) close firms are economically just as important.[[9]](#footnote-9) This somewhat as generic as widely-used *etiquette* refers to a rather broad category of firms, ranging from nascent but aspiringly disruptive high-tech start-ups, to small traditional “mom & pop” businesses and to end with large-to-very-large family and non-family firms.[[10]](#footnote-10)

However different in their organizational dimensions, commercial ambitions and operational styles, close firms all share few characteristics that define the category. Close corporations have properly been compared with a ‘spiral staircase, hard to describe but recognizable when you see one’. From a functional perspective, the following distinctive features of close corporations have been highlighted in the legal literature, among which (a) a small number of shareholders and (b) their strong participation in the firm management,[[11]](#footnote-11) particulalry because a personal permeation between shareholders and management that is also often observable.

Close firms all share a basic explanation for their existence: an explanation that does go back to the nature of the investments on which their success generally rests. Starting and developing a business project often require business partners of making specific investments – that is, investments whose value is mainly or even exclusively a function of the very relationship within which they materialize.[[12]](#footnote-12) Due to contracts’ inherently incompleteness,[[13]](#footnote-13) along with investment specificity comes the potential hold-up threats: one party may threaten to abandon the relationship to renegotiate more favorable terms in exchange for sparing his counterparty the “sunk costs” stemming out of an abrupt interruption of cooperation.[[14]](#footnote-14)

To prevent such outcome prospective business partners then generally choose to encapsulate their business relationship in a long-term organizational contract, so to benefits from the ensuing “lock-in effect” and predetermine the optimal amount of investments without fearing any threat of abandonment.[[15]](#footnote-15) Although the menu of available business organization forms is generally relatively rich,[[16]](#footnote-16) prospective business partners often resort to the corporate firm.[[17]](#footnote-17)

As a result of a presumably value-maximising deal,[[18]](#footnote-18) the relevant contract addresses the issues that are idiosyncratic to this context through a number of arrangements that lead to a given allocation of control-rights (both specific and residual) and cash flow-rights. [[19]](#footnote-19) Unless otherwise provided for in the contract, shareholders ought then to exercise their prerogatives in order to maximize firm value,[[20]](#footnote-20) eventually sharing in it as per contract’s stipulations.

Whichever the promises enshrined in the contract, real-life shows that cooperation within close firms does often proves problematic, with additional forms opportunism unfolding in all its well-known kaleidoscopic folklore in spite of the powerful informal constraints in the abstract operating in this context, such as bonding and reputation.[[21]](#footnote-21) However scant, available empirical data suggest in fact that opportunism in this context is pervasive, affecting firm performance significantly and resulting in non-negligible intra-firm value redistribution dynamics.[[22]](#footnote-22)

While immediately problematic due the ensuing redistributive effects, opportunism is even more worrisome for it can consequently also affect adversely the market for (financial, human, relational and political[[23]](#footnote-23)) capital upon which prospective business partners will tap in the future in order to assemble the resources required to start any business.[[24]](#footnote-24) Anticipating expropriation, prospective business partners may in fact making suboptimal levels of investments or even decide not to invest at all. Situations may accordingly come into existence where the market fails at supporting the implementation of positive net present value business projects, to the ultimate detriment of overall societal wealth.[[25]](#footnote-25)

The first line of defence against opportunism risk consists in designing *ad hoc* governance institutions that may support contract self-enforcement.[[26]](#footnote-26) To this end, prospective business partners may want to abandon the so-called “majoritarian rule” that governs decision-making at the shareholder level to bring in a “co-decision-making procedure” through so called “control-sharing arrangements”.[[27]](#footnote-27) The shareholders will then end up sharing either specific control-rights or even residual control altogether, thereby reinstating unanimity, as the rule governing intra-firm decision-making either in general or with regard to a given list of matters.

These arrangements do govern 50%-50% close firms by default, but can be opted in in a far broader variety of contexts, even though sometimes they come in less straightforward forms. A shareholder with a shareholding incorporating a symbolic 1% of the cash flow-rights but enjoying “even” control-rights or anyhow having a myriad of private ordering-based protections granting him more or less diffusive and pervasive veto rights is – roughly speaking – in the same position as, or is *de facto* next to be on an equal footing with, the formally controlling shareholder. Intuitively, the greater the extent that the corporate contract can unbundle control- and cash flow-rights, the greater, at least potentially, the variety of control-sharing arrangements that can contracting parties can envision and implement. Yet, even where unbundling techniques are limitedly implementable, few solutions generally tend to be available anyway, making control-sharing arrangements somehow accessible to prospective business partners in any event.[[28]](#footnote-28)

In any event, control-sharing arrangements call for unanimity, which may occasionally prove hard to emerge, though. Shareholders of a close firm may overall go along quite well, but, due to natural differences in personality, education, ideas, shareholders, they may sometimes have a hard time coming to an agreement on a given business policy.[[29]](#footnote-29) This disagreement can come in the form of a temporarily tolerable dissension, but it may also persist for a relatively longer time and ultimately lead to so-called “shareholder deadlocks”.

## Shareholder Deadlocks Value-destruction and Buyouts

Shareholder deadlocks are an unfortunate state of affairs in which shareholders have conflicting views over the firm’s best course of actions, causing a paralysis the firm’s “operating system”.[[30]](#footnote-30)

Such sort of *impasse* is problematic in that it may render unavoidable decisions that may destroy a more or less significant fraction of firm value. The deadlocked shareholders may be suddenly compelled to realize the value of the now unmanageable firm on the M&A market. Yet, selling a deadlocked firm requires acting fast to avoid decreases in value, which may compel the deadlocked shareholder to consummate the transaction in a temporarily unfavourable M&A market environment. Under such circumstances, the firm may go sold for less than what it is worth, causing again some value-destruction.[[31]](#footnote-31) Besides, particularly when no prospective acquirer for the deadlocked firm pops up, the deadlocked shareholders may have no option other that dissolve it and carry out a piecemeal liquidation. Even assuming that each and every asset were to be sold for a fair price, the value embedded in the organizational bonds tying together the firm’s productive inputs would nonetheless go destroyed.[[32]](#footnote-32)

At a closer look, however, shareholders deadlocks are as problematic even when the deadlocked shareholders take no decision to sell or dissolve the firm. The impasse resulting from shareholder deadlocks does in fact stand in the way of the deadlocked firm’s productive efficiency,[[33]](#footnote-33) preventing the implementation of value-increasing projects.

Assume for instance that, because of the existing shareholder deadlock, firm value is deadlocked firm value “DFV”. Assume that overcoming the impasse would allow to give the green light to a given business project and that implementing such business project would result in an increase in firm value by an additional given amount – say, a delta “D”. Expected post-deadlock firm value “PDFV” would then be such that PDFV=DFV+D. Yet, insofar as the deadlocked shareholders cannot get reconciled and then make a decision as to which way to go,[[34]](#footnote-34) the deadlocked firm could not engage in such value-creating exercise, which would in turn result in value-destruction in an amount VD such that VD=PDFV-FDV=D.

***Example.*** Alfa is suffering from a shareholder deadlock. Alfa’s DFV stands at 400, but Alfa’s PDFV stands at 500, if it were to implement either business project suggested by its shareholders. As the deadlocked shareholder cannot find any way out of the impasse, the deadlock persists, sacrificing 100 (100=500-400) in overall firm value.

As long as the deadlocked firm exhibits a “plain-vanilla” financial structure,[[35]](#footnote-35) the deadlocked shareholders’ payoffs are poised to be a linear function of firm value. To be sure, their current payoffs CP1=CP2 are a function of DFV and their expected payoffs EP1= EP2 are a function of PDFV. As PDFV>DFV, CP1=CP2<EP1=EP2.

Under these circumstances, the deadlocked shareholders would rationally be inclined to find a way to leave the existing impasse behind them. Assuming the invariance of post-deadlock firm value PDFV regardless of whether the firm implements the business project suggested by either deadlocked shareholder, the deadlocked shareholders should be rationally indifferent as to which path to follow in order to overcome the deadlock. Either imaginable course of action would in fact result in an identical increase in their respective payoffs.

Yet, real business life shows in practice the deadlocked shareholders would struggle at achieving that goal in practice.[[36]](#footnote-36) Exogenous factors do in fact often stand in the way of finding a mutually profitable agreement, thereby making it impossible to find a way out of the currently existing paralysis.[[37]](#footnote-37)

Insofar as differences among shareholders are irreconcilable, “voice” as a strategy to address the involution of the business relationship is bound to either be silenced or anyway remain unheard, rendering “exit” the only avenue available out of the impasse.[[38]](#footnote-38) With other ways out of the shareholder deadlock being *a priori* precluded,[[39]](#footnote-39) exit here means a “buyout”. Broadly speaking, a buyout is a transaction whereby one shareholder buys out the other shareholder leading to the situation where control- and cash-flow rights eventually end being in the hands of one shareholder only. This shareholder will then have free reins in implementing his own business project and eventually capture post-deadlock firm value in its entirety[[40]](#footnote-40) – *recte*: almost its entirety.[[41]](#footnote-41)

A buyout does obviously requires the deadlocked shareholders of setting the buyout terms – say, by way of simplification, the price.[[42]](#footnote-42) To this end, in some instances, either deadlocked shareholder can unilaterally ask for a third party, generally a court,[[43]](#footnote-43) to perform that task. If this avenue is unavailable, the externalization of this task would postulate an agreement among the deadlocked shareholders, which, however, may lack due to a number of reasons.[[44]](#footnote-44)

Under these circumstances, the default solution for the deadlocked shareholders would then consist in setting the buyout terms by resorting to negotiations that, being completely unplanned, are “extemporary” by nature. Contract, however, can make the bed for an alternative through Russian Roulette provisions and the ensuing buyout procedure.

# *The Default Solution: Extemporary Negotiations*

Extemporary negotiations imply that the deadlocked shareholder will bargain to set the buyout terms.

Extemporary negotiations generate significant administrative costs. They generally unfold in quite an unamicable environment. Not only are they time-consuming, but they also generally compel the deadlocked shareholders to face significant disbursements concerning financial and legal advisors. Mutual distrustfulness induces the deadlocked shareholders to refuse going forward without the assistance of appraisers and lawyers that may better understand and measure what is at stake and eventually ink an agreement that may be effective at protecting their interests.

In addition to being costly, extemporary negotiations do also prove often long if not extenuating, causing delays in overcoming the impasse.

Above all, they carry one potential important drawback: the quest for fair buyouts would prove elusive in both a symmetric and, a fortiori, asymmetric bargaining environment.

Extemporary negotiations unfold in the shadow of the shareholder deadlock,[[45]](#footnote-45) which means that the deadlocked shareholders would negotiate in the awareness of two facts. First, the deadlocked shareholders’ best alternatives to a negotiated – their outside options. Second, the fraction of value D that overcoming the shareholder deadlock would make it possible to create – with D=PDFV-DFV.[[46]](#footnote-46)

## *Symmetric Bargaining Environment*

Assuming perfect symmetry, both the deadlocked shareholders come to identical estimates as regards both deadlocked firm value DFV and expected post-deadlock firm value PDFV.

Both the deadlocked shareholders know that their current payoffs CP1 and CP2 are such that CP1=CP2=DFV/2 and their expected payoffs EP1 and EP2 are such that EP1=EP2=PDFV/2. They would accordingly negotiate in the awareness of the facts that their outside options such that OP1=OP2=DFV/2 and that overcoming the deadlock would create the preconditions to generate an additional fraction of value D, with PDFV>DFV and D=PDFV-DFV.

Given the inefficiency of the *status quo* and both deadlocked shareholders’ rational ambitions to share in D, a relatively wide positive “Zone of Possible Agreements” (“ZoPA”) would then emerge.[[47]](#footnote-47) A positive ZoPA is the spectrum upon which are distributed the terms of all the possible agreements to which the negotiating parties may potentially come. This spectrum here has two intuitive ends. One end of the spectrum consists in the deadlocked shareholders’ outside options OP1=OP2=DFV/2. The other end of the spectrum consists in the difference between the post-deadlock firm value PDFV and either deadlocked shareholder’s outside option OP1 and OP2 – that is, PDFV-DFV/2.

To be sure, the two ends of the ZoPA here consists in the lowest price LP1 and LP2 that either deadlocked shareholder would accept to sell his own shareholding and the highest price HP1 and HP2 that either deadlocked shareholder would pay to buy the other deadlocked shareholder’s shareholding. The lowest price is equal to either deadlocked shareholder’s outside option *plus* the potentially infinitesimal inducement that would justify the exchange.[[48]](#footnote-48) That is, LP1=LP2=DFV+X. The highest price is equal to the difference between post-deadlock firm value PDFV and the value that that either shareholding has under the status quo *minus* a potentially infinitesimal inducement that would justify the exchange.[[49]](#footnote-49) That is, HP1=HP2=(PDFV-DFV/2)-X.

Under these circumstances, either deadlocked shareholder would try to improve his current position by either selling his own shareholding or buying the other deadlocked shareholder’s shareholding. Intuitively, either deadlocked shareholder would self-interestedly seek to capture the greatest fraction possible of the additional fraction of value D that overcoming the shareholder deadlock would create by either downsizing or incrementing X, depending on whether he is acting as a buyer or a seller, respectively.

Against this backdrop, insofar as no barriers to negotiations exist, Coasian bargaining would sooner than later likely prevail,[[50]](#footnote-50) with the deadlocked shareholders accordingly agreeing for one to buy out the other for a price that incorporates a given fraction of D.[[51]](#footnote-51)

Intuitively, chances are that the deadlocked shareholders may then end striking a bargain whereby they split post-deadlock firm value equally, so that either deadlocked shareholder receives PDFV/2. Yet, the deadlocked shareholders’ outside options are inefficient, for OP1=OP2=DFV/2; and the gains from trade are potentially large, as they range from OP+X to (PDFV-DFV/2)-X. The spectrum of potential bargaining outcomes does accordingly exhibits a potentially significant level of dispersion.[[52]](#footnote-52) As either deadlocked shareholder can strategically threaten the other deadlocked shareholder to remain with the *status quo* in order to try to extract rents,[[53]](#footnote-53) low-ball offers become attractive. The deadlocked shareholders could therefore well happen to agree upon a buyout price that could sit on any point of the ZoPA – thus ranging between PDF/2+X and (PDFV-DFV/2)-X. In any event, the ultimate result would be an allocation of post-deadlock firm value that is more or less significantly inconsistent with *ex-ante* arrangements as to value distribution.

***Example***: Alfa is a deadlocked firm with two shareholders A and B, who are negotiating under perfect bilateral symmetry the terms of a buyout. DFV and PDFV stand at 400 and 500 respectively, with the value of each shareholding correspondingly standing at 400/2=200 under the current impasse and 500/2=250 in a post-deadlock scenario. The lowest prices at which the deadlocked shareholder would sell their shareholdings are such that (400/2)+.1=200.1. The highest prices that either shareholder would pay to secure full control of the deadlocked firm are (500-400/2)-.1=299.9. By way of approximation, the ZoPA would then range between 200.1 and 299.9. Buying or selling at any price ranging between 200.1 and 299.9 are solutions rationally preferable to the *status quo*, in which the deadlocked shareholders have 200 each. If, for instance, A were to buy B out at 200.1, both shareholders would observe an increase in their respective payoffs equal to 49.9 (49.9=250-200.1) and 0.1 (0.1=250-249.9), respectively. If, again for instance, A were to buy B out at 299.9, B and A would observe an increase in their payoffs equal to 0.1 (0.1=250-249.9) and 49.9 (49.9=250-201.1), respectively.[[54]](#footnote-54) To sum up: A could happen to buy B out at a price ranging between 200.1 and 299.9 – or *viceversa*. To the extent that either shareholder receives less than his pro rata fraction of post-deadlock firm value, this hypothetical buyout would prove unfair.

In theory, situations may materialize in which either deadlocked shareholder could manage to sell his shareholding for just few nuts more than what it is worth under the *status quo*; or pay a very large premium absorbing much or even almost all the additional value that he would be able to generate by running the firm alone shortly thereafter. These scenarios are perhaps extreme, and milder outcomes are certainly possible.

The bottom-line is that extemporary negotiations come with the risk that the deadlocked shareholders may end up with a fraction of post-deadlock firm value that is non-negligibly greater and correspondingly non-negligibly smaller than their *pro rata* fraction of post-deadlock firm value.[[55]](#footnote-55)

## *Asymmetric Bargaining Environment*

The deadlocked shareholders’ quest for fair buyouts does not obviously prove less problematic once the assumption of perfect symmetry is relaxed and asymmetries in information, managerial skills or financial capabilities enter the frame.

### Information Asymmetries

The deadlocked shareholders might have different information as regards the deadlocked firm. To be sure, the focus here is more limitedly on information asymmetries concerning the firm’s future prospects *based on its* *existing business plans*. (Phrased in the negative, these information asymmetries to do not relate to projects that either shareholder contemplates based on his own idiosyncratic vision of the business, which, although concerning the firm too, are private information for they are the function of so-called “entrepreneurship” [[56]](#footnote-56)). To make sense of this scenario, consider the following hypothetical. The firm has undertaken a potentially very profitable R&D project whose value is X. The deadlocked shareholders both know that such project will have a 10% probability of success so that its value stands at X\*.1. One deadlocked shareholder receives private information suggesting that the probability of success is 99,9% so that the project’s value is X\*.99. This is the sort of private information considered herein.

Differences in the information accessible to the deadlocked shareholders can be the by-product out of a variety of factors.[[57]](#footnote-57) One notable cause is role allocation within the firm. In close firms, one shareholder often ends up being the *de facto* sole “active” shareholder, with the other shareholder serving as mere provider of financial capital, instead.[[58]](#footnote-58) Even when the deadlocked shareholders are both actively involved in the firm, they may happen to hold differently important positions within the organization. For instance, only one shareholder could be responsible for an essential function of the firm (e.g., the firm’s strategic and financial management) that by nature implies access prompt access to the most material information and that the other shareholder could be responsible for activities (e.g., the firm’s logistics) that do not entail access to equally material information, instead.[[59]](#footnote-59)

Informational imbalances here imply that deadlocked firm value PDV is common knowledge for both the deadlocked shareholders. However, being differently able to foresee the ongoing sequence of events concerning the firm, the deadlocked shareholders define expected post-deadlock firm value PDFV differently. More in detail, the situation may come into existence in which the more informed shareholder has private information that enable him to come up with an estimate PDFV1 that is more accurate than the estimate PDFV2 to which the other deadlocked shareholder can come. Besides, the more knowledgeable deadlocked shareholder also knows that he has superior information and an at least vague idea as to what are the pieces of information that the less knowledgeable deadlocked shareholder does not have, so as to be able to come up with a rough inference as to his estimate as to PDFV2. Moreover, the less knowledgeable deadlocked shareholder ignores the quantity and/or quality of the superior information to which the more knowledgeable deadlocked shareholder is privy and for some reasons he is unable to make also any valuable inference based on the observation of his behaviour.

Under these circumstances, the lowest price LP1 and LP2 that both the deadlocked shareholders would accept to sell their shareholding is equal to their outside options plus the inducement required to justify the exchange – that is, LP1=LP2=DFV/2+X. The highest price that the less knowledgeable deadlocked shareholder would pay is equal to the difference between his estimate as to post-deadlock firm value and his outside option minus the inducement that would justify the exchange – that is, HP2=(PDFV2-DFV/2)-X. Because of informational asymmetries, the highest price that the more knowledgeable deadlocked shareholder would pay is equal to the highest price that the less knowledgeable deadlocked shareholder plus the inducement that would justify the exchange – that is, HP1=HP2+X.

The ZoPA here has two ends. One end consists in the deadlocked shareholders’ outside options plus the inducement that justifies the exchange – that is DFV/2+X. Another end consists in the highest price that the less informed deadlocked shareholder would pay to the more informed deadlocked shareholder plus the inducement that would justify the exchange – that is, HP2+X.

Extemporary negotiations could lead to setting a buyout price that may sit anywhere on this range. Dynamics analogous to those that can emerge under perfect symmetry can be still observable. Given the deadlocked shareholders’ outside options OP1=OP2=DFV/2, the more knowledgeable deadlocked shareholder could attempt to buy the less knowledgeable deadlocked shareholder out for a price P=DFV/2+X, thereby making a win W=PDFV1/2-P. Besides, as intuitively as obviously, the risk comes into existence that the more knowledgeable deadlocked shareholder would buyout the less knowledgeable deadlocked shareholder by offering any price P≥(PDFV2-DFV/2), thereby making a win W=PDFV1/2-P.

To sum up: rather obviously, information asymmetries do not reduce to any extent the bargaining outcome uncertainty that is observable already under perfect symmetry; rather, they create frictions in the bargaining environment that may contribute to propitiate unfair buyouts.

Quite importantly, although the more knowledgeable deadlocked shareholder has no tool to compel “mechanically” the less knowledgeable deadlocked shareholder to sell out, the voluntary nature of the exchange would not really serve as a line of defense against unfairness. The less informed shareholder does in fact ignore the true state of the affairs. Hence, he would have no reason to object – or not to consent – to an unfair buyout.

### Managerial Unevenness

The deadlocked shareholders might also happen to have different managerial skills – that is, roughly speaking, the combination of theoretical and practical knowledge required to manage the business with a view to generating value.[[60]](#footnote-60) Managerial skills can be non-fungible: that is, they can reside with the deadlocked shareholders, whom no professional manager can therefore replace.

Managerial unevenness can stem out from a variety of causes. It can be a function of the differences in education or working experience between the deadlocked shareholders. A deadlocked shareholder who has undertaken management studies or had already run other firms is plausibly managerially more skilled than the other deadlocked shareholder who has studied, for instance, biochemistry and has never been involved in any capacity in the management of businesses of any sort. Role allocation within the firm matters, too. Being in charge of the “on-the-field” strategic management of the firm requires, as well as leading to the development of, managerial skills that the shareholder responsible for the front- and back-office functions of the firm, very much like the shareholder who serves as mere capital provider, does likely neither need to have nor can learn by doing, instead.

Differences in terms of managerial skills between the deadlocked shareholders imply that, despite the identity of the overall assets under management, the deadlocked firm would be more valuable under the management of the managerially more skilled shareholder than under the management of the managerially less skilled deadlocked shareholder. This does in turn lead to a situation in which, although coming to the same estimate as to DFV, the deadlocked shareholders come to different estimates as to post-deadlock firm value. The managerially more skilled deadlocked shareholder’s estimate would be PDFV1 and the managerially less skilled deadlocked shareholder’s estimate PDFV2, such that PDFV1>PDFV2.

More in detail, the situation may come into existence in which both the deadlocked shareholders know as to the existence of an imbalance as to managerial skills. Either deadlocked shareholder is accordingly able to define roughly and yet reliably the magnitude of the additional fraction of value that the other deadlocked shareholder would generate in a post-deadlock scenario and, hence, approximate the other deadlocked shareholder’s estimate as to post-deadlock firm value.

Here again, the lowest price LP1 and LP2 that either deadlocked shareholder would accept to sell his shareholding is equal to his outside option plus the inducement required to justify the exchange – that is, LP1=LP2=DFV/2+X. The highest price HP1 that the managerially more skilled deadlocked shareholder would pay is equal to the difference between his own estimate as to post-deadlock firm value and his outside option minus the inducement that would justify the exchange – that is, HP1=(PDFV1-DFV/2)-X. The highest price HP2 that the managerially less skilled deadlocked shareholder would pay is equal to the difference between his own estimate as to post-deadlock firm value and his outside option minus the inducement that would justify the exchange – that is, HP2=(PDFV2-DFV/2)-X.

The ZoPA here has two ends. One end consists in the deadlocked shareholders’ outside options LP1=LP2=DFV/2 plus the inducement that justifies the exchange. Another end consists in the highest price that the managerially less skilled deadlocked shareholder would pay to the managerially more skilled deadlocked shareholder plus the inducement that would justify the exchange – that is, HP2+X.

Here again, extemporary negotiations could lead to setting a buyout price that may sit anywhere on this range. Dynamics analogous to those that can emerge under perfect symmetry can be observable. Given the deadlocked shareholders’ outside options LP1=LP2=DFV/2, the more managerially more skilled deadlocked shareholder could attempt to buy the managerially less skilled deadlocked shareholder out for a price P=DFV/2+X, thereby making a win W=PDFV1/2-P. Besides, dynamics analogous to those that can emerge under informal asymmetries can also be observable. As intuitively as obviously, the risk comes in fact into existence that imbalances in managerial skills may disrupt the bargaining equilibrium, so that the managerially more skilled deadlocked shareholder could buyout the managerially less skilled deadlocked shareholder by offering any price P≥(PDFV2-DFV/2), thereby making a win W=PDFV1/2-P.

To sum up: rather obviously, information asymmetries do not reduce to any extent the bargaining outcome uncertainty that is observable already under perfect symmetry; rather, they create frictions in the bargaining environment that may contribute to propitiate unfair buyouts.

Quite importantly, extemporary negotiations result in a voluntary exchange. Accordingly, although the managerially less skilled deadlocked shareholder has intuitive incentives to sell out to the managerially more skilled deadlocked shareholder for any price P≥(PDFV2-DFV/2), the the managerially more skilled deadlocked shareholder cannot “force” in any way the managerially less skilled deadlocked shareholder to sell for anything less than PDFV1/2. The voluntary nature of the exchange constitutes a fundamental line of defense against unfair buyouts.

### Financial Disparity

The deadlocked shareholders may also happen to be differently capable of sourcing the financial resources required to cover the costs associated with buying the other deadlocked shareholder out.

Financial disparity is not a function of a comparative assessment of the wealth that the deadlocked shareholder have at their immediate fruition. Rather, it stems out of different relative ease with which the deadlocked shareholders can access finance. For instance, a “shell” corporation that has no cash reserve whatsoever and no valuable assets, but it is part to a big corporate conglomerate has no immediate access to liquidity but it has access the intragroup capital market.[[61]](#footnote-61) Despite appearances, this shell corporation is all but financially less capable than a solid stand-alone firm that can fund the buyout by tapping upon his promptly available cash. The same shell corporation would instead plausibly be financially more capable to fund a buyout than a stand-alone firm that has pledged all its assets to fund a project through debt finance and has no chance to source additional funding.

Financial disparity can generate a number of heterogeneous scenarios that obviously put the financially less capable deadlocked shareholder in a disadvantageous position. The focus here is on the scenario in which one deadlocked shareholder has limited-to-no access to funding. Besides, the financially more capable deadlocked shareholder is somehow privy to the fact that the non-triggering shareholder is experiencing financial hardship. (This may in practice be the case because, for instance, the financially more capable deadlocked shareholder has first-hand information about the fact that the non-triggering shareholder is literally struggling to pay his due debts, giving ground to the inference that he be hardly able to fund the buyout.)

Under these circumstances, the deadlocked shareholders would come up with identical estimates as to both deadlocked firm value DFV and post-deadlock firm value PDFV. The lowest price that either deadlocked shareholder would accept to sell his shareholding is equal to their outside options plus the inducement required to justify the exchange – that is, OP1=OP2=DFV/2+X. The highest prices HP1 andHP2 that deadlocked shareholders would pay are equal to the difference between their own estimate as to post-deadlock firm value and their outside options minus the inducement that would justify the exchange – that is, HP1=HP2=(PDFV-DFV/2)-X.

The two ends of the ZoPA here consists in the lowest price LP1 and LP2 that either deadlocked shareholder would accept to sell his own shareholding and the highest price HP1 and HP2 that either deadlocked shareholder would pay to buy the other deadlocked shareholder’s shareholding. The lowest price is equal to either deadlocked shareholder’s outside option *plus* the potentially infinitesimal inducement that would justify the exchange.[[62]](#footnote-62) That is, LP1=LP2=DFV+X. The highest price is equal to the difference between post-deadlock firm value PDFV and the value that that either shareholding has under the status quo *minus* a potentially infinitesimal inducement that would justify the exchange.[[63]](#footnote-63) This highest price would be such that HP1=HP2=(PDFV-DFV/2)-X.

Here again, extemporary negotiations could lead to setting a buyout price that may sit anywhere on this range. Dynamics analogous to those that can emerge under perfect symmetry can be observable. Given the deadlocked shareholders’ outside options LP1=LP2=DFV/2, the more managerially more skilled deadlocked shareholder could attempt to buy the managerially less skilled deadlocked shareholder out for a price P=DFV/2+X, thereby making a win W=PDFV/2-P. Besides, as intuitively as obviously, the risk comes in fact into existence that imbalances in financial capabilities may disrupt the bargaining equilibrium, increasing the chances that unfair buyouts would materialize.

To sum up: rather obviously, financial disparity does not obviously reduce to any extent the bargaining outcome uncertainty that is observable already under perfect symmetry; rather, financial disparity creates frictions in the bargaining environment that may contribute to propitiate unfair buyouts.

Quite importantly, extemporary negotiations result in a voluntary exchange. The financially stronger deadlock shareholder has no tool to “force” the financially weaker deadlocked shareholder to sell for anything less than PDFV/2. Here again, the voluntary nature of the exchange constitutes a fundamental line of defence against unfair buyouts.

# *A Contract-based Solution: Russian Roulette Provisions*

Contract can help prospective business partners to bring in a number of solutions aiming at either deflecting the risk of shareholder deadlocks altogether from the onset of the business relationship. Assigning a so-called “tie breaking vote” to one shareholder or a third party exemplify this sort of solutions.[[64]](#footnote-64) Rather than preventing the shareholder Contract can also seek to make sure that price-setting as regards buyout will obey such a logic as to prove fair. Russian Roulette provisions and the ensuing buyout procedure exemplify instead the second sort of solutions.

In their simplest design, a Russian Roulette provision requires one deadlocked shareholder (*i.e.*, the triggering shareholder) to serve a notice to the other shareholder (*i.e.*, the non-triggering shareholder), naming an all-cash price at which it values his interest in the business on a *pro rata* basis.[[65]](#footnote-65) In general, contract is such that either deadlocked shareholder can be the triggering shareholder. Having received a given offer, the non-triggering shareholder can then either buy the triggering shareholder out or sell out to him at the established *pro rata* price.

From this stylized contractual arrangement originates a buyout procedure with an equally well-defined three-step structure. This buyout procedure begins with the formalization of the decision to trigger the buyout procedure accompanied by an offer by the triggering shareholder to buy the other shareholder’s shareholding at the established *pro rata* price. Next, it has an intermediate step in the non-triggering shareholder’s responsive decision to sell his own shareholding or buy the triggering shareholder’s shareholding. Finally, it necessarily ends with one deadlocked shareholder buying out the other deadlocked shareholder, thereby eventually securing full control over the firm.

Such private ordering-based solutions vest the deadlocked shareholders with a call option upon the other shareholder’s shareholding – from now onwards Call Option 1 and Call Option 2, respectively. Quite importantly, Call Option 1 and Call Option 2 exhibit two peculiar features: they are mutually intertwined as regards both *their exercise* and *price-setting*. To begin with, Call option 1 is subject to the condition precedent that Call Option 2 will remain unexercised. (To be sure, the stabilization of the effects of the exercise of Call Option 1 is subjected to the condition precedent that Call Option 2 will remain unexercised). Symmetrically, Call Option 2 is subject to the condition precedent that the triggering shareholder will serve the non-triggering shareholder a notice to exercise Call Option 1. Besides, Call Option 1’ and Call Option 2’ strike prices are reflexive by design: that is, Call Option 2’s strike price P2 mirrors Call Option 1’ strike price P2, such that P1=P2.

The mechanics featuring these two crossing call-options are in turn responsible for generating very peculiar dynamics that could different depending on the symmetric or asymmetric nature of the bargaining environment.

## Symmetric Bargaining Environment

In a symmetric bargaining environment, Russian Roulette provisions generate virtuous dynamics that lead to fair buyouts.

The very fact that Call Option 1 is contingent upon Call Option 2 non-exercise makes impossible for the triggering shareholder to know ex ante whether at the end of the buyout procedure he will be the seller of his own shareholding or the buyer of the non-triggering shareholder’s shareholding. Second, the reflexive nature of P1 and P2 is such that the triggering shareholder’s decision to name a given price P1 will inform the non-triggering shareholder’s decision to exercise or leave unexercised Call Option 2.

Assume that, in an attempt to pursue the interest of an *a priori* designated buyer,[[66]](#footnote-66) the triggering shareholder exercises Call Option 1 at a price P1<PDFV/2 in order to buy the non-triggering shareholder out at a discount. The non-triggering shareholder would then have obvious incentives to choose to be himself the buyer and, thus, buy the triggering shareholder out for a symmetrically unfair price. By buying the triggering shareholder out at a price P2<PDFV/2, the non-triggering shareholder would make a win W equal to the difference between the value of the triggering shareholder’s shareholding PDFV/2 and the price that he has paid – that is, W=PDFV/2-P2. Now assume instead that, in trying to advance the interest of an *a priori* designated seller,[[67]](#footnote-67) the triggering shareholder exercises Call Option 1 at a price P1>PDFV/2, so to try to sell out for a premium. The non-triggering shareholder would then have obvious incentives to choose to be himself a seller and, to this end, not to exercise Call Option 2, so to walk away with a top-up. By selling his shareholding at a price P1>PDFV/2, the non-triggering shareholder would in fact make a win W equal to the difference between the value of his own shareholding and the price that he has pocketed – that is, W= P1-PDFV/2.

***Example.*** Alfa is a deadlocked firm with two shareholders A and B in the vests of the triggering shareholder and non-triggering shareholder, respectively. Alfa’s DFV and PDFV stand at 400 and 500, respectively. If A were to name a price P1<500/2 (say, e.g., P1=240), B would rationally decide to exercise his Call Option 2 at a price P2=P1 (with P2=240). B would then buy A him out for a price that does not reflect his pro rata share of post-deadlock firm value (for PDFV/2=250 and 240<250). Symmetrically, if A were to name a price such that P1>500/2 (say, e.g., 260), B would decide not to exercise his Call Option 2 and sell out to him for more than PDFV/2. B would then accept to be bought out for a price that again does not reflect his pro rata share of post-deadlock firm value (for PDFV/2=250 and 260>250). Either way, B would receive more than his *pro rata* share of post-deadlock firm value (that is, 10, for 10=250-240 and 10=260-250, respectively). A would correspondingly capture less than his *pro rata* share of post-deadlock firm value.

The prospects of the potential consequences stemming out of thesedynamics shapes the triggering shareholder’s incentives as to price-setting. Being unable to know ex ante whether he will be the buyer or the seller of his own shareholding, the triggering shareholder is rationally induced to abstain from advancing the interest of either a buyer or a seller by naming a price P1<PDFV/2 or P1>PDFV/2. Rather, the egoistical ambition to protect his own payoff regardless of the buyout procedure’s outcome induces the triggering shareholder to name a price that may equally effectively protect the payoff of an anonymous buyer or seller.

Doing so is in fact the key to create the preconditions to capture his own *pro rata* fraction of post-deadlock firm value regardless of whether he will actually end up being the seller of his own shareholding or the buyer of the non-triggering shareholder’s shareholding.

To this end, the triggering shareholder cannot help but name a price such neither shareholder can make any sort of win W, so that eventually W=0. And Intuitively, for W=0, the only price that the triggering shareholder can name is a price P1=PDFV/2. Being P1=PDFV/2, and being P1=P2 by design, each shareholder would then necessarily receive PDFV/2, as per contract original stipulations independently of the buyout procedure’s outcome.

Russian Roulette provisions exhibit a design that imprints into the ensuing buyout procedure very peculiar mechanics, which are in turn responsible for the anonymization of the role that either deadlocked shareholder will actually have as the buyout procedure ends. This anonymization does in turn triggers dynamics that neutralize the potentially distorting effects of self-interest in price-setting and eventually propitiate contractual self-enforcement.

***Example***: The deadlocked firm Alfa has two shareholders A and B in the vests of the triggering shareholder and non-triggering shareholder, respectively. Alfa’s DFV and PDFV stand again at 400 and 500, respectively. Concerned with egoistically preserving his own payoff, *qua* either potential buyer of B’s shareholding or potential seller of his own shareholding, the triggering shareholder has virtuous incentives to name a price P1=250 (PDFV/2=500/2=250). Being P1=250 and being 250=PDFV/2, it will prove immaterial whether A will eventually buy B out or B will buy A out. Either way, either deadlock shareholder will receive his pro rata fraction of post-deadlock firm value.

In a symmetric environment, Russian Roulette provisions and the ensuing buyout procedure outperform extemporary negotiations qua technique for a buyout. The reason for can be appreciated by highlighting the impact that such private ordering-based solutions have on the deadlocked shareholders’ outside options and, hence, on the ZoPA.[[68]](#footnote-68)

Russian Roulette provisions formalize a control right instrumental to delivering fair buyouts. Because of the explicit promise that in the event of a shareholders deadlock each deadlocked shareholder will receive his fair share of post-deadlock firm value, either deadlocked shareholder’s “new” outside options – that is, OP1 and OP2 – are now such that OP1=OP2=PDFV/2.[[69]](#footnote-69)

As private ordering has brought in a control right specifically aimed at delivering fair buyouts, neither deadlocked shareholder now would sell his own shareholding for less than what he would receive if the buyout terms were to be set as a result of the buyout procedure for which Russian Roulette provisions make the bed.

The re-setting of the deadlocked shareholders’ outside options does in turn affect the width of the ZoPA that would come into play if the deadlocked shareholders were to engage in extemporary negotiations for a buyout. The width of the ZoPA is – as previously discussed[[70]](#footnote-70) – a function of its ends. One end consists in the deadlocked shareholders’ outside options OP1 and OP2. The other end consists in the highest prices HP1 and HP2 the triggering and the non-triggering shareholder would pay to secure full control of the deadlocked firm, respectively,[[71]](#footnote-71) which are equal to the difference between the post-deadlock firm value PDFV and their outside options OP1 and OP2.

That is, OP1=OP2=PDFV/2, HP1=HP2=PDFV-PDFV/2 and, ultimately, HP1=HP2=PDFV/2. Therefore, both the deadlocked shareholders’ outside options OP1 and OP2 and the highest prices HP1 and HP2 are now *identical*, such that both OP1=OP2=PDFV/2 and HP1=HP2=PDFV/2. As a result of such identity, the two ends of the ZoPA overlap, making shrinking the ZoPA to a very specific point of the once far wider spectrum of the possible prices: that is, PDFV/2.

Intuitively, a ZoPA that consists in only one point does in fact bar bargaining by definition and thereby self-denies its very fundamental *raison d’etre*. And in fact, however susceptible to abstract theorizations, the ZoPA is now *de facto* non-existent.[[72]](#footnote-72)

## Asymmetric Bargaining Environment

In an asymmetric bargaining environment, Russian Roulette provisions and the ensuing buyout procedure do fare less well, creating the preconditions for so-called “equity tunnelling” strategies resulting in the “predation” of the non-triggering shareholder.[[73]](#footnote-73) In essence, the triggering shareholder is be able – in a manner similar to so-called “freeze-outs”[[74]](#footnote-74) – to literally «[…] force [the non-triggering shareholder] to sell [her] shares … [at a unilaterally set price]»,[[75]](#footnote-75) eventually buying him out for cheap.

### Information Asymmetries

To begin with, the buyout procedure may malfunction if the deadlocked shareholders have access to different information as regards the firm.

Recall – and adapt - the situation considered above. (i) The triggering shareholder is more knowledgeable than the non-triggering shareholder. Besides, (ii) the triggering shareholder knows that he has superior information and has but an however vague idea as to what are the pieces of information that the non-triggering shareholder does not have, so as to be able to come up with a rough inference as to the non-triggering shareholder’s estimate of post-deadlock firm value. Finally, (iii) the non-triggering also ignores the quantity and/or quality of the superior information to which the triggering shareholder is privy and for some reasons he is unable to infer anything meaningful from the triggering shareholder’s behaviour – that is, from his decision as to price-setting.

In such scenario, the buyout procedure for which Russian Roulette provisions make the bed may fail at propitiating fair buyouts.

Under perfect symmetry, the deadlocked shareholders come to identical estimates as regards both deadlocked firm value DFV and, and more importantly, as to expected post-deadlock firm value PDFV and as to their shareholdings’ expected value EP1 and EP2, such that EP1=EP2=PDFV/2. Accordingly, the highest prices HP1 and HP2 that either shareholder would pay to secure full control of the firm and the lowest prices LP1 and LP2 at which they would sell out to the other deadlocked shareholders are *identical*, too. That is, HP1=LP1=HP1=LP2=PDFV/2. Accordingly, the deadlocked shareholders would neither buy for anything more nor sell for anything less than half post-deadlock firm value. Given the way in which Call Option 1 and Call Option 2 interact, any attempt from the triggering shareholder to secure more than PDFV/2 would backfire. Under perfect bilateral asymmetries, in fact, Call Option 2 exerts a disciplining effect on the triggering shareholder’s decision to set the strike price for Call Option 1 that generates the self-regulating dynamics responsible for fair buyouts.[[76]](#footnote-76)

Under information asymmetries, instead, the deadlocked shareholders, although coming up with identical estimates as to the deadlocked firm value DFV, have different estimates as to post-deadlock firm value. Here, the triggering shareholder’s estimate PDFV1 exceeds the non-triggering shareholder’s estimate and PDFV2, such that PDFV1>PDFV2. Differences in the deadlocked shareholders’ estimates as to post-deadlock firm value intuitively affect deadlocked shareholders’ estimates as to the expected value of their shareholdings, which are now *different*. Hence, they also affect both (i) the highest prices HP1 and HP2 at which the triggering shareholder and the non-triggering shareholder would buy the other deadlocked shareholder out, respectively; and (ii) the lowest prices LP1 and LP2 at which they would sell out to the other deadlocked shareholder. Obviously, both such highest prices HP1 and HP2 and lowest prices LP1 and LP2 are now *different*, too. The highest price HP1 that the triggering shareholder would pay, as well as the lowest price LP1 at which he would sell out to the non-triggering shareholder are such that HP1=LP1=PDFV1/2. The highest price HP2 that the non-triggering shareholder would pay, as well as the lowest price LP2 at which he would sell out to the triggering shareholder are such that HP2=LP2=PDFV2/2, instead. Being PDFV1>PDFV2, then obviously HP1=LP1=PDFV1/2> HP2=LP2=PDFV2/2.

Knowing that PDFV1>PDFV2, no Rawlsian veil falls before the triggering shareholder’s eyes. Rather, he has strong incentives to buy the non-triggering shareholder out, for this course of action would enable him to increase his payoff by capturing his own *pro rata* fraction of the greater additional value that he can generate by securing full control of the firm – that is, PDFV1/2-PDFV2/2. As a designated buyer who knows where PDFV2 roughly stands as well as that the non-triggering shareholder would sell for any price P= (PDFV2-DFV)+X with virtual certainty, the triggering shareholder is also the position to capture relatively more than his *pro rata* fraction of PDFV1 by naming a price P1 such that P1>(PDFV2-DFV)+X. By doing so, he would in fact induce him the non-triggering shareholder not to exercise Call Option 2 and thereby to sell his own shareholding. Provided also that P1 is such that P1<PDFV/1, the triggering shareholder would eventually make a win W, with W=PDFV1/2-P1.[[77]](#footnote-77)

Under these circumstances, the buyout procedure would formally play out as per contract and even enable both shareholders to capture a given fraction of expected post-deadlock firm value, thereby rendering them both better off relative to the *status quo*. Yet, the reality beyond this apparently contractually compliant buyout procedure and the resulting ostensibly fair outcome is that, being PDFV2 “depressed” relative to PDFV1, Call Option 2 does exert upon the triggering shareholder’s decision as to the strike price for Call Option 1 only a limited disciplining effect.

***Example***: Alfa is a deadlocked firm with two shareholders A and B in the vests of the triggering shareholder and the non-triggering shareholder, respectively. Alfa’s value stands at 400. Beingthe firm’s CFO, A knows about the promising prospects of a R&D project that has just begun. Based on his best available information, he estimates that PDFV1 would stand at 550. Being in charge of the firm’s commercial department and, thus, alien from its operational and strategic management, B is instead persuaded that PDFV2 would stand at 450. Either shareholder would buy the other shareholder out or sell to him out at a price that reflects *pro rata* his own assessment of post-deadlock firm value: that, A would buy or sell at 275 (275=550\*.5) whilst B would buy or sell at 225 (225=450\*.5) for the non-triggering shareholder. Knowing about his informational advantage and roughly estimating B’s reservation price, A would try to induce the non-triggering shareholder to sell by naming a price P1 slightly greater than 225 – say, 225.1. Allured by the prospects of increasing his expected payoff (relative not only to the *status quo*, but also and more importantly to what his shareholding would be worth after securing full control of the firm), B would rationally opt to sell. The triggering shareholder would then secure W =550/2-225.1=24.9), causing a corresponding decrease of the non-triggering shareholder’s expected payoff (L=550/2-225.1=24.9). At first look, the buyout procedure has just played out fairly – that is, as per contract rules and with both shareholders having captured a given fraction of post-deadlock firm value that rendered them both better-off relative to the *status quo*. Yet, as A and B have in fact received more or less, respectively, than what the contract had stipulated, the buyout terms would denote a certain degree of unfairness.

### Managerial Unevenness

The buyout procedure exhibit functional limitations also if the deadlocked shareholders have different managerial skills.[[78]](#footnote-78)

Differences in managerial abilities between the deadlocked shareholders can stem out from a variety of causes. Managerial unevenness can be a function of the differences in education or working experiences between the deadlocked shareholders. If one deadlocked shareholder had undertaken management studies or had already run other firms, whilst the other deadlocked shareholder studied biochemistry and has never been involved in any capacity in the management of businesses of any sort, it would not be surprising that they have different managerial skills. Moreover, once again, role allocation within the firm matters. Being in charge of the “on-the-field” strategic management of the firm requires, as well as leading to the development of, managerial skills that the shareholder responsible for the front- and back-office functions of the firm, very much the shareholder who serves as mere capital provider, does likely neither need to have nor learn by doing, instead.

Differences in managerial skills can lead to a variety of scenarios. Reconsider – and adapt here too – the situation considered above. (i) The triggering shareholder is managerially more skilled than the non-triggering shareholder. Besides, (ii) both know as to the existence of an imbalance as to their respective abilities to run the deadlocked firm, so that either deadlocked shareholder is able to define roughly and yet reliably the magnitude of the additional fraction of value that the other deadlocked shareholder would generate in a post-deadlock scenario.

In such scenario, the deadlocked shareholders have would com up with identical estimates as to the deadlocked firm value DFV, but they would have different estimates as to post-deadlock firm value PDFV. Here again, the triggering shareholder’s estimate as to expected post-deadlock firm value PDFV1 would exceed the corresponding non-triggering shareholder’s estimate PDFV2, such that that PDFV1>PDFV2. Like under informational asymmetries, this eventually leads to the situation where PDFV1>PDFV2, and, thus, HP1=LP1=PDFV1/2> HP2=LP2=PDFV2/2.

Not only would the triggering shareholder have incentives to buy the non-triggering shareholder out, but he would also be able to do exploit existing circumstances to his own advantage. Being here too PDFV2 “depressed” relative to PDFV1, Call Option 2 does exert upon the triggering shareholder’s decision as to the strike price for Call Option 1 only a limited disciplining effect here too.

***Example***: Alfa is a deadlocked firm with two shareholders A and B in the vests of the triggering shareholder and the non-triggering shareholder, respectively. A and B were once wife and husband, but they have divorced, now finding themselves involved in this entrepreneurial adventure that has now turned into a feud. As of now, Alfa’s value stands at 400. Alfa is here again Alfa’s CFO with years of experience in management positions. A knows how to reorganize the firm, to save costs and increase productivity far more than B. Therefore, A has sound reasons to conclude that Alfa’s post-deadlock firm value would stand at 500. B has been for long serving as a mere capital provider, even though at a later point in time he has been in charge of the firm’s commercial department. B concludes that PDFV2 would stand at 450. Either shareholder would buy the other shareholder out or sell to him out at a price that reflects *pro rata* his own assessment of post-deadlock firm value: that, A would buy or sell at PDFV1/2=500/2=250. B would buy or sell at PDFV2/2=450/2=225. If A were to offer PDFV/2 =450/2=225, B would rationally decide not to exercise her call option and thus sell. A would then secure W=PDFV1/2-P1=25, causing a corresponding decrease of the non-triggering shareholder’s expected payoff. Underneath an ostensibly buyout procedure hides an unfair buyout indeed.

### Financial Disparity

The buyout procedure does potentially suffers from important dysfunctionalities if the deadlocked shareholders are differently capable of sourcing the financial resources required to cover the costs associated with buying the other shareholder out.

Take once again into account – and adapt – the scenario sketched above in which the triggering shareholder is in a financially more solid position. Both the triggering shareholder and the non-triggering shareholder know the true state of the affairs. Besides, the triggering shareholder is somehow privy to the fact that the non-triggering shareholder is experiencing financial hardship, for instance because the triggering shareholder knows that the non-triggering shareholder is largely indebted, up to the point that he has been unable to pay his due debts. Intuitively, the triggering shareholder can therefore infer that the non-triggering shareholder would be hardly able to raise all the capital needed to fund the buyout.

Under these circumstances, the buyout procedure for which Russian Roulette provisions make the bed may once again fair at delivering fair outcomes.

Like under perfect bilateral symmetry, under financial disparity the deadlocked shareholders come to an identical estimate as to both the deadlocked firm value DFV and the post-deadlock firm value PDFV. As no difference accordingly emerges in their estimates as to the value of their respective shareholdings, both the highest prices HP1 and HP2 at which either deadlocked shareholder would buy out the other deadlocked shareholder and the lowest prices at which either deadlocked shareholder would sell out to the other deadlocked shareholder are *identical*. That is, HP1=HP2=PDFV/2 and LP1=LP2=PDFV/2.

Given the reflexivity of Call Option 1’ and Call Option 2’ strike price, such that P1=P2, if the triggering shareholder names a price P1 such that P1<PDFV/2, the non-triggering shareholder would obviously want to buy him out. That is, he would want to react by exercising Call Option at a price P2 such that P2<PDFV/2, thereby securing a win W, such that W=PDFV/2-P2. *À la charte*, even under these circumstances, the buyout procedure would therefore have the potential to generate that sort of virtuous self-regulating dynamics that in principle lead to fair buyouts. However, because of financial disparities, things will presumably play out quite differently *in reality*. Knowing that the non-triggering shareholder has limited financial capabilities, the triggering shareholder would then have incentives to name a price P1 relatively lower than P1=PDFV/2. *À la charte*, the non-triggering shareholder would then rationally want to react by buying the triggering shareholder out at a price P2=P1. However, to the extent that the price P1 and hence the obligation associated with paying the price P2 generate costs exceeding the non-triggering shareholder’s financial capabilities, the non-triggering shareholder would be *de facto* unable to pay the price P2, regardless of low and, thus, potentially attractive may it be. Being unable to pay such price P2, the non-triggering shareholder would then have to sell out at a discount. Call Option 2 does exert upon the triggering shareholder’s decision as to the strike price for Call Option 1 a limited disciplining effect here too. In short, the liquidity constraint implies that the non-triggering shareholder may remain victim of a predatory offer that falls below the current value – i.e., below 200.

***Example***: Alfa is a very small firm with A and B in the vests of the triggering shareholder and the non-triggering shareholder, respectively. Both A and B know that Alfa’s current value and post-deadlock firm value stand at 400 and 500, respectively. A is a private equity firm that can easily finance the relatively modest cost of the buyout. B is instead a small firm that has been long struggling paying back the bridge financing that the private equity had advanced, so that its financial hardship is known to both A and B itself. B would be practically unable for the time being to raise any capital – say the most that it can raise is just 10. Under these circumstances, either deadlocked shareholder would buy the other deadlocked shareholder out at a price 500/2=250. Knowing about B’s financial hardship, A would have incentives to offer B relatively less than 250 – say 240 or in the extreme scenario 11. Either way, B would in theory want to buy A out, but, as the most he could pay is 10, she could not do so in practice. The triggering shareholder would then increment her expected payoff by at least 10, even though in the extreme scenario he would appropriate 240. Obviously, the non-triggering shareholder’s expected payoff would decrease correspondingly. At first look, the buyout procedure has just played out as per contract. In fact, the deadlocked shareholders have in fact received more or less than what the contract had stipulated. The buyout has therefore consummated at relatively unfair terms.

# *A Qualitative Assessment*

[*To be written*]

# *The Role of Regulation*

[*To be written*]

# *The Way Ahead*

[*To be written*]

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# **Affiliation, Acknowledgments, and Authorship**

[*To be written*]

1. See below, Section 2.1. [↑](#footnote-ref-1)
2. Deadlocks can materialize at either the director or shareholder level and, thus, unfold within the board of directors or the general meeting (or the corresponding, possibly informal, *locus* where shareholders make decisions), respectively. See, e.g., Hewitt (2001), p. 242. The focus here is on shareholders deadlocks only. [↑](#footnote-ref-2)
3. The shareholders in the ideal close firms considered throughout this article are risk-neutral agents without any individual time preference. Accordingly, the discount rate for future cash flows is equal to 1 and the expected post-deadlock firm value is equivalent to net present value. [↑](#footnote-ref-3)
4. For a similar definition, see Landeo & Spier (2014), p 147, nt. 15; and Morgan (2004), p 910. [↑](#footnote-ref-4)
5. Here meant in a very broad sense, as the set of rules crafted by the legislature or the judicial governing social behavior. See Black (1997), p 19. Also, the term here refers to both a necessarily incomplete regulatory apparatus and the necessary complementing enforcement. This reflects the fact that law is inherently incomplete and that enforcement needs to complete it. See Pistor & Xu (2003). [↑](#footnote-ref-5)
6. Terminology in this context is still very fluid: Russian Roulette provisions are from time to time dubbed as “Shotgun clauses”, “Crossed options clauses”, “Buy-sell clauses”, “Texas Shoot-out clauses”, “Chinese clauses”, and the like. US case law shows particularly well the variety of these denominations. For references, see Landeo & Spier (2014), p 146, nt. 13. The resulting analysis does in fact extend to other private ordering-based solution that, despite their different denominations, exhibit a design that generates incentives that are similar to those produced by the Russian Roulette provisions considered herein. Symmetrically, it does not extend to other contract devices that, although named as Russian Roulette provisions, feature a design that does not match the design of the Russian Roulette provisions considered here. [↑](#footnote-ref-6)
7. See Landeo & Spier (2014), p 159, n. 67. [↑](#footnote-ref-7)
8. The most important book in corporate law scholarship does deal exclusively with public firms: see Armour et al. (2017). The literature does often emphasize this fact. See, e.g., Blair (2019), p 197. In a sense, this is also true with regard to lawmaking. See, for instance, Wells (2008) discussing the impact that the paradigm of the large public firm has had on US lawmakers over time (even though of course this is by no means supposed to mean that policy-makers and academics ignore close firms). [↑](#footnote-ref-8)
9. On close firms, see, also for references, Bachmann et al. (2013) and Agstner (2019), p. 505. As to the broad conceptualization of the contract adopted here, see, e.g., Bengtsson (2012), p 486. As to the “control right” versus “residual control” divide, see Tirole (2006) pp 76 and 387-388, and, earlier in time, Grossman & Hart (1986). [↑](#footnote-ref-9)
10. Being a function of the restricted number of shareholder, the etiquette does attach – as noted in the text – also to venture capital-backed startups and private equity-backed firms, which, however, feature a financial structure and a governance model that generate a different set of problems. For a general discussion, see, e.g., Maynard & Warren (2014), pp \_\_\_-\_\_\_. For an exemplification, see Nigro & Stahl (2020). [↑](#footnote-ref-10)
11. See, also for references, Agstner (2019), p 506, nt 4 and corresponding text. [↑](#footnote-ref-11)
12. See, also for references, Rock & Watcher (1999). [↑](#footnote-ref-12)
13. See Grossman and Hart (1986), Hart and Moore (1990), and Hart (1995). [↑](#footnote-ref-13)
14. See Williamson (1985); Grossman and Hart (1986), pp 691-719; and Hart & Moore (1988), pp 755-785. [↑](#footnote-ref-14)
15. See, e.g., Williamson (1985). See also Klein et al. (1978), Grundmann et Al. (2013), and Klausner (2015). [↑](#footnote-ref-15)
16. Partnerships and joint ventures are also among the available business forms. See, e.g., Farrell & Scotchmer (1988) and Mariti & Smiley (1996). [↑](#footnote-ref-16)
17. See Rock & Wachter (1999), pp 918-922. [↑](#footnote-ref-17)
18. Absent frictions, contracts are ex ante presumably value maximizing by definition. See, e.g., Easterbrook and Fischel (1989), p 1421. [↑](#footnote-ref-18)
19. See, e.g., Bachmann et al. (2013); Wedemann (2013); and, more recently, Agstner (2020). [↑](#footnote-ref-19)
20. Contract implementation generally obeys the joint value maximization norm. See Schwartz & Scott (2003), p 550 (“sophisticated parties at the negotiation stage prefer to write contracts that maximize total benefits rather than preferring a larger share of a smaller pie”). This implies that decision-making ought therefore to maximize joint value, regardless of how the contract has allocated authority and will allocate the resulting value. The corporate contract is no exception. See Armour et al. (2017a), p 23. This is in line with the corporate finance lesson that intra-firm decision-making ought to be instrumental to the maximization of firm value regardless of how its community of investors will capture the resulting wealth. See, e.g., Damodaran (2010), p 3. Assuming the absence of other constituencies (e.g., creditors or workers), firm value here is joint value, which coincides with the concept of “cooperative surplus”, on which see Cooter & Ulen (2012), p 75. Importantly, the value maximization norm is, however, just a default rule. See Goetz & Scott (1983), p 971, as well as Schwartz (1993), pp 390 and 399. As such, it is amenable to adjustments through contract: see below, Sect. 4.3, nn \_\_\_-\_\_\_ and corresponding text. [↑](#footnote-ref-20)
21. On bonding, see Easterbrook & Fischel (1986), p 274, fn 7 and corresponding text. On reputation, see instead Mahoney (2000), pp 177 and 183 and, in a broader perspective that sheds lights on the sanctions attaching to reputational losses, Skeel (2001). [↑](#footnote-ref-21)
22. See Nagar et al. (2001), which is one of the very few studies discussing empirically opportunism in close firms – which they evoke by resorting to the broader concept of “governance problems” coming with an uneven allocation of control-rights among majority and minority shareholders – and finding that it does affect firm performance negatively. [↑](#footnote-ref-22)
23. For details and references, see \_\_\_\_. [↑](#footnote-ref-23)
24. The “market” referred to in the text exhibits no institutional structure – in the sense that there is no physical or virtual place specifically organized to facilitate the matching between demand and offer. Nonetheless, this structural deficit notwithstanding, the crossing between demand and offer is enough to portray the existence of a market where financial- and human-capital meet, negotiate, and possibly come to cooperate. [↑](#footnote-ref-24)
25. For details and references, see \_\_\_\_. [↑](#footnote-ref-25)
26. Shleifer & Vishny (1997), p 737 (describing the basic problem of corporate governance as one that requires that corporate institutions should work to deliver the promised returns). Self-enforcement consists in the “automatic” enforcement of the contract. SeeBlack & Kraakman (1996). As such, it differs radically from both market-driven and third-party enforcement. [↑](#footnote-ref-26)
27. Both the legal and the finance literature recommend that to solve the problem of opportunism the main shareholder should surrender some control to the minority shareholder, so that he cannot take unilateral actions that may advance his own interest at the expense of the other shareholders. See O’Neal & Thompson (1985), on the one hand; and Bennedsen & Wolfenzon (2000), Gomes & Novaes (2000) and Pagano & Roell (1998), on the other hand. [↑](#footnote-ref-27)
28. See \_\_\_. [↑](#footnote-ref-28)
29. See again Landeo & Spier (2014). [↑](#footnote-ref-29)
30. In the computing science literature, an operating system is the most important – the vital – software that runs on a computer. A set of processes or threads in an operating system is said to be deadlocked when each process or thread is waiting for the release of a resource withhold in another process that is simultaneously being run in the same operating system, causing its paralysis. See Zöbel (1983). To the extent that intra-firm decision-making can be analogized to an operating system, each deadlocked shareholder’s consent can be thought of as the essential resource required for the operating system to work effectively, with its lack causing the firm to get deadlocked. [↑](#footnote-ref-30)
31. For details on these dynamics, see Nigro & Stahl (2021), pp \_\_\_\_, nn. \_\_\_\_ and corresponding text. [↑](#footnote-ref-31)
32. Value destruction would obviously be even greater in magnitude if for any reason the firm’s assets were to be sold at a discount. [↑](#footnote-ref-32)
33. Productive efficiency requires a firm of operating at maximum capacity, with assets being currently so that under the current management policy no additional value can be produced. [↑](#footnote-ref-33)
34. On the reasons why reconciliation may be precluded (even when it would pave the way to value-increasing decisions), see below, ntt. \_\_\_-\_\_\_ and corresponding text. [↑](#footnote-ref-34)
35. A “plain-vanilla” financial structure exists when shareholdings and, more broadly speaking, the firm’s financial structure are designed in such that the shareholders are entitled only to a given fraction of the residual, so that both shareholders are on an equal footing as to firm value allocation. Other arrangements are also possible and all but uncommon. For instance, in private equity- and venture capital-backed firms, the venture capitalist’s shareholding often incorporate so-called “liquidation preferences” and firm value is accordingly allocated unevenly. These arrangements may be occasionally observable “normal” close firms, too. Shareholders for instance often finance the firm through debt capital, which functionally speaking – and for the purposes of the discussion articulated herein – does not differ from the liquidation preferences that in private equity- and venture capital-backed firms typically receive. The discussion articulated herein does not consider this scenario. [↑](#footnote-ref-35)
36. See Landeo & Spier (2014). [↑](#footnote-ref-36)
37. Real business life is replete with examples of such dynamics. See, for instance, \_\_\_\_. [↑](#footnote-ref-37)
38. See Hirschmann (1970) – which if often invoked to account for intra-firm dynamics also as regards close firms. See, e.g., \_\_\_\_. [↑](#footnote-ref-38)
39. Recall the twofold assumption that the dissolution of the deadlocked firm would be inefficient and the firm sale may be in practice practically undoable or as inefficient as firm dissolution. See above, n. \_\_\_ and corresponding text. [↑](#footnote-ref-39)
40. See Landeo & Spier (2014), p. \_\_\_\_. [↑](#footnote-ref-40)
41. For the sake of accuracy: the deadlocked shareholder who secures full control can never appropriate post-deadlock firm value *in its entirety*. At best, he can appropriate most of post-deadlock firm value. The reason for this is simple and goes back to the very fundamental logic of any voluntary exchange, which occurs to the extent, and only to the extent, that it improves the current payoff of the contracting parties. Capturing the post-deadlock firm value requires buying the other deadlocked shareholder’s shareholding, which in turn implies allowing him to capture a given fraction of the increase in value resulting from overcoming the deadlock. In theory, this bribe can be infinitesimal in magnitude, but no voluntary transaction could go through without it. [↑](#footnote-ref-41)
42. Note that price is the main, but certainly not the only, proxy, for defining how value flows from one party to the other. See \_\_\_\_. [↑](#footnote-ref-42)
43. See \_\_\_. [↑](#footnote-ref-43)
44. For instance, either deadlocked shareholder may in fact fear that the appraisal procedure carried out by the court would not consider or properly weigh in one or more of those components of value that in close firm play a non-negligible role. See Landeo & Spier (2014). [↑](#footnote-ref-44)
45. *Id*. [↑](#footnote-ref-45)
46. See above, § 2.2, n. \_\_\_ and correspoding text. [↑](#footnote-ref-46)
47. A ZoPA can be either “negative” or “positive”. A negative ZoPA implies that there is no room for bargaining. A positive ZoPA implies instead that there is room for bargaining. [↑](#footnote-ref-47)
48. See above, n \_\_\_. [↑](#footnote-ref-48)
49. See above, n \_\_\_. [↑](#footnote-ref-49)
50. Absent transaction costs, the initial allocation of property rights is unimportant, for bargaining will result in the allocation of assets to their highest value use through. See Coase (1960). [↑](#footnote-ref-50)
51. Here again, see above, n \_\_\_\_. [↑](#footnote-ref-51)
52. That is, “the range of potential bargaining outcomes is broad”. See Landeo & Spier (2014), p 159, fn 169 and corresponding text. [↑](#footnote-ref-52)
53. See Brooks et al. (2010), p 650, nt 7 and corresponding text. [↑](#footnote-ref-53)
54. This example builds, with some adaptations, on Landeo & Spier (2014). [↑](#footnote-ref-54)
55. More straightforwardly: extemporary negotiations can lead to unfair buyouts. In any event, unfairness does intuitively encounter two obvious “structural” limits: the lowest price at which the either deadlocked shareholder would sell and the highest price at which either deadlocked shareholder would buy. Accordingly, the most that one deadlocked shareholder can appropriate from the other deadlocked shareholder is equal to the other shareholder’s *pro rata* fraction of the deadlocked firm value *plus* the potentially infinitesimal inducement justifying the exchange or the post-deadlock firm value *minus* the potentially infinitesimal inducement justifying the exchange. See above, n \_\_\_. [↑](#footnote-ref-55)
56. If either deadlocked shareholder contemplates starting a new R&D project after completing the buyout, this information relates to future value that stems out of entrepreneurship and does not constitute an informational advantage. See Goshen & Wiener (2005), p 3, nt. 8 and 9-11; Pacces (2012); Pacces (2014); Bolton (2014); and, more recently, for the articulation of a consistent theory, Goshen & Hamdani (2015), as well as Goshen & Hamdani (2019). [↑](#footnote-ref-56)
57. Intra-firm information asymmetries (for instance, information asymmetries between managers and external shareholders or majority shareholder and minority shareholders) are a pervasive phenomenon and their exploitation by decision-makers can alter the allocation of firm value and, thus, distributive problems See, for instance, \_\_\_\_. Corporate law scholarship deals chiefly with information asymmetries in public firms. Shareholders in close firms are generally thought to be on an equal footing as to information and that, if observable, information asymmetries are less severe than in public firms. See, for instance, \_\_\_\_. Although this thesis sounds plausible in light of the structural features of close firms, reality is more complex. Also in close firms, in fact, shareholders are often on an uneven playing field when it comes to information. See, for instance, \_\_\_\_. [↑](#footnote-ref-57)
58. “In real‐world settings, non-managing investors (limited partners) might be the less informed partners. Given that they have weaker control rights over the business assets and are less likely to participate in the business activities, non-managing investors might be less familiar with the value of the business assets than the managing investors (general partners)”. See Brooks et al. (2010). [↑](#footnote-ref-58)
59. See \_\_\_. [↑](#footnote-ref-59)
60. Simply, managerial skills are the knowledge and ability of the individuals in a managerial position to fulfil some specific management activities or tasks. This knowledge and ability can be learned and practiced. However, they also can be acquired through practical implementation of required activities and tasks. Therefore, you can develop each skill through learning and practical experience as a manager. In particular, following skills are included: Planning, Organizing, Leadershop, Communicating, Decision Making, Problem Solving.  [↑](#footnote-ref-60)
61. See Triantis (2004) (explaining how firms can evolve into groups of various types of organizations, from corporations to charitable trusts, and discussing at length the economics of the internal capital markets existing within the intra-group web of inter-firms relationships). [↑](#footnote-ref-61)
62. See above, n \_\_\_. [↑](#footnote-ref-62)
63. See above, n \_\_\_. [↑](#footnote-ref-63)
64. See \_\_\_. [↑](#footnote-ref-64)
65. This design is just the simplest design possible. Design can vary, however, in many respects. First, differences may regard control-right allocation: that is, it may well be the case that both the shareholders can trigger the buyout procedure. Second, variations can result in the shareholder receiving the notice to name another price. Third, contract can stipulate a specific methodology or formula to set the strike price. The literature has considered some of these arrangements. See, for instance, See Page (1959). More recently, see Landeo & Spier (2014), pp 157 ff. (discussing the advantages and disadvantages linked to a clause labelled Shotgun that entitles each shareholder to activate the buyout procedure). See also Fleischer & Schneider (2012), pp 38-40 (discussing briefly a Texas Shoot-out provisionsentitling the shareholder that receives the first offer to either accept it or buy the other shareholder out or increase the offer that he had received). [↑](#footnote-ref-65)
66. Buyers want by definition to buy low, so as to appropriate a greater fraction of the cooperative surplus that trade generate. See \_\_\_. [↑](#footnote-ref-66)
67. Sellers want by definition to sell high, so as to appropriate a greater fraction of the cooperative surplus that trade generate. See \_\_\_. [↑](#footnote-ref-67)
68. See above, n. \_\_\_ and corresponding text. [↑](#footnote-ref-68)
69. See above, n. \_\_\_ and corresponding text. [↑](#footnote-ref-69)
70. See above, n. \_\_\_ and corresponding text. [↑](#footnote-ref-70)
71. See above, n. \_\_\_ and corresponding text. [↑](#footnote-ref-71)
72. Note that the extinction of the ZoPA has in turn important consequences on the dynamics underlying extemporary negotiations regardless of whether the buyout procedure is actually triggered or not. In fact, being there is no longer any room for bargaining: inter-shareholdings trading through extemporary negotiations now can in fact succeed only if the triggering shareholder were to pay the non-triggering shareholder a price P1=OP2=PDFV/2; or, *viceversa*, if the non-triggering shareholder were to pay the triggering shareholder a price P2=OP1=PDFV/2. That is, extemporary negotiations can succeed only if either deadlocked shareholder were to pay his counterparty his *pro rata* fraction of post-deadlock firm value, ultimately leading to a fair buyout. ***Example***: Alfa is a deadlocked firm with A and B in the vests of the triggering shareholder and the non-triggering shareholder, respectively. Alfa’s DFV and PDFV stands at 400 and 500, respectively. And A’ and B’s shareholdings are accordingly worth 200 and 250 each, respectively. Absent a Russian Roulette provision, extemporary negotiations between A and B would possibly result in some sort of under- and over-payments. Insofar as the contract features a Russian Roulette provision, A’ and B’s outside options are a function of PDFV, such that OP1=OP2=250. As OP1=OP2=PDFV/2=500/2=250 and HP1=HP2=PDFV-PDFV/2=500-500/2=500-250=250, OP1=OP2=HP1=HP2=250. The ZoPA has now accordingly shrunk to 250. Therefore, neither A or B would buy the other’s deadlocked shareholder’s shareholding or sell their own shareholding at any price that is either higher or lower than 250. Against this backdrop, inter-shareholding trading can now succeed only if A pays B 250 – or viceversa. A fair buyout would materialize, eventually. [↑](#footnote-ref-72)
73. On tunneling, see, generally, Johnson et al. (2000). Here tunneling comes in the form of “equity tunneling”, which, as per Atanasov et al. (2011), pp 7-8, fn 50 and corresponding text, “[increases the decision-maker’s] ownership claims over the firm’s assets, [at the expense of the shareholder external to decision-making], without directly affecting the firm’s operations”. As such, it is detectable – *inter alia* – when a shareholder buys another shareholder’s shareholding at an unfair price. Being a synonym for “expropriation” (in the economic sense), “predation” consists in the ultimate outcome of tunneling. An extensive literature in financial contracting theory and law and economics resorts to this term. See, e.g., Fudenberg & Tirole (1986), on the one hand; and Anabtawi (2016), on the other hand. [↑](#footnote-ref-73)
74. See Clark (1986). [↑](#footnote-ref-74)
75. Goshen & Wiener (2003), p 2. [↑](#footnote-ref-75)
76. See above, nn \_\_\_\_-\_\_\_\_. [↑](#footnote-ref-76)
77. See above, nn \_\_\_\_-\_\_\_\_. [↑](#footnote-ref-77)
78. See above, n. \_\_\_ and corresponding text. [↑](#footnote-ref-78)