Everything I Know About the Bond Market I Learned from Litwin v. Allen

Law Working Paper N° 627/2022
February 2022

Richard A. Booth
Villanova University

ECGI Working Paper Series in Law

Everything I Know About the Bond Market I Learned from Litwin v. Allen

Working Paper N° 627/2022
February 2022

Richard A. Booth

Abstract

This essay focuses on the classic 1940 case Litwin v. Allen, 25 N.Y.S.2d 667 (1940), in which the court ruled that directors and officers of a bank were liable for losses suffered by the bank from a transaction in which the bank bought a bond at a discounted price subject to an option permitting the seller to buy it back at the same price (up to) six months later. The price of the bond fell dramatically during the option period, the seller declined to buy it back, and the bank was left with the loss. The court ruled that the defendant directors and officers were not protected by the business judgment rule – which precludes liability for losses from good faith business decisions – because the deal entailed assuming an extra risk of loss without the prospect of extra return. In effect, it was a no-win bet in which the bank would break even at best. Thus, Litwin articulates one way that corporate management (and indeed any fiduciary) can be held accountable for losses suffered by the corporation (or principal) other than because of a disabling conflict of interest.

Although the Litwin court states the rule correctly, it is wrong on the facts. What the court fails to see is that the bank did bargain for extra return because it bought the bond at a discount from market value. Moreover, the bank could have hedged against the risk of loss and may indeed have been hedged by virtue of diversification. But to understand why the result in Litwin is wrong one must understand the fundamentals of time value of money, going concern value, option pricing, portfolio theory, and many other topics typically covered in a class on corporate finance. Conversely, Litwin can be seen as a short course on the legal aspects of corporate finance and as such is an excellent teaching case.

Despite being wrong on the facts, Litwin remans good law and continues to be followed by the courts, most notably by the Second Circuit in Joy v. North, 692 F.2d 880 (2d Cir. 1982), another seminal decision authored in 1982 by the late Judge (and Professor) Ralph Winter. Like Litwin, Winter's opinion in Joy can serve as a clinic in corporation law as seen at a time when legal scholars were just beginning to recognize the relevance and power of financial concepts and when new transactions and governance issues challenged old ways of thinking. This essay focuses on Litwin itself and the flaws in the reasoning thereof. The sequel will focus on the implications of the Litwin rule in connection with the interpretation of the business judgment rule as articulated in Joy by Judge Winter.

Keywords: business judgment rule, no-win, waste, yield, premium, discount, hedge, option, put, call, short sale, forward sale, futures, arbitrage, default risk, interest rate risk, credit default swap, off-balance-sheet, diversification, law of large numbers, synthetic

JEL Classifications: G01, G12, G24, G32, G34, K22

Richard A. Booth
Martin G. McGuinn Chair in Business Law
Villanova University Charles Widger School of Law
299 North Spring Mill Road
Villanova, PA 19805, United States
phone: +1 610 5197068, fax: +1 610 595672
e-mail: booth@law.villanova.edu

Everything I Know About the Bond Market I Learned from *Litwin v. Allen*

An Essay (in Two Parts) for Ralph Winter

By Richard A. Booth

Abstract

This essay focuses on the classic 1940 case *Litwin v. Allen,* 25 N.Y.S.2d 667 (1940), in which the court ruled that directors and officers of a bank were liable for losses suffered by the bank from a transaction in which the bank bought a bond at a discounted price subject to an option permitting the seller to buy it back at the same price (up to) six months later. The price of the bond fell dramatically during the option period, the seller declined to buy it back, and the bank was left with the loss. The court ruled that the defendant directors and officers were not protected by the business judgment rule – which precludes liability for losses from good faith business decisions – because the deal entailed assuming an extra risk of loss without the prospect of extra return. In effect, it was a no-win bet in which the bank would break even at best. Thus, *Litwin* articulates one way that corporate management (and indeed any fiduciary) can be held accountable for losses suffered by the corporation (or principal) other than because of a disabling conflict of interest.

Although the *Litwin* court states the rule correctly, it is wrong on the facts. What the court fails to see is that the bank *did* bargain for extra return because it bought the bond at a discount from market value. Moreover, the bank could have hedged against the risk of loss and may indeed have been hedged by virtue of diversification. But to understand why the result in *Litwin* is wrong one must understand the fundamentals of time value of money, going concern value, option pricing, portfolio theory, and many other topics typically covered in a class on corporate finance. Conversely, *Litwin* can be seen as a short course on the legal aspects of corporate finance and as such is an excellent teaching case.

Despite being wrong on the facts, *Litwin* remans good law and continues to be followed by the courts, most notably by the Second Circuit in *Joy v. North,* 692 F.2d 880 (2d Cir. 1982), another seminal decision authored in 1982 by the late Judge (and Professor) Ralph Winter. Like *Litwin,* Winter's opinion in *Joy* can serve as a clinic in corporation law as seen at a time when legal scholars were just beginning to recognize the relevance and power of financial concepts and when new transactions and governance issues challenged old ways of thinking. This essay focuses on *Litwin* itself and the flaws in the reasoning thereof. The sequel will focus on the implications of the *Litwin* rule in connection with the interpretation of the business judgment rule as articulated in *Joy* by Judge Winter.

KEYWORDS: business judgment rule, no-win, waste, yield, premium, discount, hedge, option, put, call, short sale, forward sale, futures, arbitrage, default risk, interest rate risk, credit default swap, off-balance-sheet, diversification, law of large numbers, synthetic

JEL CODES: G01, G12, G24, G32, G34, K22

Everything I Know About the Bond Market I Learned from *Litwin v. Allen*

An Essay (in Two Parts) for Ralph Winter

By Richard A. Booth

Until the 1980s, there were only a handful of cases in which the directors of a corporation had been held liable for mismanagement other than because of a business decision tainted by an actionable conflict of interest. One such case, *Litwin v. Allen,* is a 1940 decision by a New York City trial court.[1] The claim in *Litwin* was based on the decision (in October 1930) by the directors and officers of a bank, the Guaranty Trust Company (the Bank) to buy $3M in **bonds** owned by Alleghany Corporation at **par** (**face value**). But the Bank also agreed that Alleghany could buy back the bonds at the same price for a period of six months. In other words, the Bank granted a **call option** to Alleghany.[2]

---

[1] Litwin v. Allen, 25 N.Y.S.2d 667 (1940). *See also* Selheimer v. Manganese Corp. of America, 224 A.2d 634 (Pa.1966) (finding board of directors liable for investment in new facilities that would produce no profit). *And see* Bates v. Dresser, 251 U.S. 524 (1920) (suggesting that bank directors might be subject to an enhanced duty of care).

Note that some words and phrases herein are set forth in **bold** in order to identify them as technical terms or terms of art that are especially relevant as a matter of corporation law or in the financial markets. The idea is that a reader who is unfamiliar with the subject matter (such as many law students and indeed lawyers and judges) may find it helpful to refer to outside sources (such as Investopedia) for additional context and background. I also recommend one of my own works for this purpose: ROBERT W. HAMILTON & RICHARD A. BOOTH, BUSINESS BASICS FOR LAW STUDENTS (4E Aspen 2006).

One of the problems with understanding finance and the law related thereto is that different words can be used to refer essentially to the same thing. One of the best examples can be seen in the many words and phrases referring **rate of return**, which depending on context may be **interest rate** or **discount rate** or **capitalization rate** or **return on equity** (ROE) or **return on investment (ROI)** or **indeed cost of capital** or **weighted average cost of capital** (WACC)**.** For another example, experts and analysts can quibble about whether **return** is best measured by **profits** or **income** (for tax purposes) or **earnings** (for reporting purposes under GAAP) or **cash flow** (as most analysts prefer) or indeed **earnings before interest and taxes** (EBIT) or **earnings before interest, taxes, depreciation, and amortization** (EBITDA).

Although this piece was written with students in my Corporate Finance class primarily in mind, the subject matter and the argument are by no means matters of received wisdom. Indeed, I suspect that many legal scholars might disagree with my position and that even sophisticated investors might find my analysis intriguing.

[2] For context, Alleghany needed cash to pay an obligation that was coming due in the near future. But it was unable to borrow because it had reached the debt limit set forth in its charter (AKA **certificate of incorporation** or **articles of incorporation** (AOI). Alleghany did not want to sell the bonds in question supposedly because they were convertible into common stock of the issuer – Missouri Pacific Railroad (MoPac) – which was controlled by Alleghany. Alleghany feared that if the bonds were sold, they might be converted into enough common stock for the buyer to gain control of MoPac. The *Litwin* court found this rationale dubious because the conversion price

The bonds – which were convertible subordinated **debentures** issued by Missouri Pacific Railroad (MoPac) – fell dramatically in price over the course of the six-month option period. In the end, Alleghany declined to exercise its option to buy them back. And the Bank was left holding the bag.[3] Bank stockholders filed a **derivative action** on behalf of the Bank to recover the loss suffered. They prevailed despite the **business judgment rule** which provides that corporate directors and officers cannot be held liable for losses resulting from good faith business decisions in the absence of a disabling conflict of interest.[4]

The court found that the decision to buy the bonds subject to the agreement to resell them was not one that a reasonable businessperson *could* have made in good faith because the *best* possible outcome was for the bank to break even.[5] If the bonds increased in price, Alleghany would buy them back. If the bonds decreased in price, the Bank would suffer the loss. Thus, the deal was a no-win proposition. And the case has been cited as standing for the rule that such a decision is not protected by the business judgment rule. [6]

To expand: The business of business is to generate returns – to make a profit. Thus, a decision that *cannot* do so cannot be one made in good faith (except maybe where necessary to avoid a greater loss). No prudent person would invest in a deal or venture that is expected on balance to lose money.[7] In the language of business law, such a deal is seen as **waste** of corporate assets and thus too stupid (to put it bluntly) to be protected by the business judgment rule -- which generally protects all business decisions except for those tainted by a conflict of interest.[8]

was such that a bondholder would need to give up $100 worth of bonds for each share of stock which was trading for $44 per share at the time. In other words, the **conversion right** (essentially a **call option**) was way **out of the money**. Although the court was skeptical about the motivation for the deal, it did not consider it relevant to the legal issue before it, namely whether the deal made any business sense for the Bank.

Incidentally, it is well settled that a corporation has the inherent power to borrow money, and it is quite unusual for borrowing capacity to be limited in a corporate charter (at least today). The limit in Alleghany's charter might be likened to the debt ceiling for the US government – which coincidentally is quite unusual among developed countries. Typically, countries (like corporations) can borrow as much as they want or need subject to the good judgment of its treasury department or central bank and market forces that impose higher rates of interest as one takes on more debt. In contrast to the inherent power of a corporation to borrow money, the AOI must state the number of shares that a corporation is authorized to issue in its AOI – presumably because shares represent ownership interests. Thus, the courts are quite vigilant about enforcing both the letter and the spirit of the law relating to the formalities of authorization, issuance, and reacquisition of shares. *See, e.g.,* Byrne v. Lord, 1996 WL 361503 (Del.Ch. 1996). On the other hand, the (counterintuitive) **equal dignities** doctrine posits that individual provisions of corporation statutes should be interpreted independently: The fact that a deal cannot be done under one such provision does not imply that it cannot be done some other way. *See, e.g., Matteson v. Ziebarth*, 242 P.2d 1025 (Wash.1952). Similarly, the courts are quite reluctant to find any implied terms in the context of debt instruments. *See, e.g., Morgan Stanley & Co. v. Archer Daniels Midland Co.,* 570 F. Supp. 1529 (S.D.N.Y.1983) (covenant not to refinance bonds did not preclude borrowing for other purposes and call of bonds using other corporate funds); Sharon Steel. *See also Sharon Steel Corp. v. Chase Manhattan Bank, N.A.*, 691 F.2d 1039 (2d Cir. 1982) (opinion by Winter) (piecemeal sale of operations followed by proposed merger of stripped-down corporation with another corporation that would assume long term debts constituted breach of bond indenture relating to successor obligors).

The foregoing notwithstanding, one must wonder whether a bank should assist a corporation in subverting the stated terms of its charter. There are surprisingly many cases in which parties to deals have had to answer for accepting the benefits of a deal that should not have been approved by the board of a corporate counterparty. *See, e.g.,* Smith v. Van Gorkom, 488 A.2d 858 (Del. 1985); Heckmann v. Ahmanson, 168 Cal.App.3d 119 (1985). *See also* In re Rural/Metro Corporation Stockholders Litigation, 102 A.3d 205 (Del. Ch. 2014).

As for the transaction giving rise to the *Litwin* case, the idea to buy the bonds from Alleghany originated with Morgan who offered a participation in the deal to the Bank. To add to the confusion, the defendant Bank (Guaranty Trust) comprised two separate entities at the time of the 1930 deal, the Trust Company and the Guaranty Company, who had merged by the time of the 1940 decision. The Bank later merged with J. P. Morgan & Co. (in 1959) to form Morgan Guaranty Trust, which then merged with Chase Manhattan Bank (in 2000) to form today's J. P. Morgan Chase. *See infra* note 26.

In the interest of full disclosure, Alleghany Corporation later became a client of Donovan Leisure Newton & Irvine (DLNI) where I was an associate from 1976 to 1982. I worked on several matters securities litigation in which Alleghany was involved. DLNI, which was founded in 1959, was not involved in the *Litwin* litigation. Moreover, the Van Sweringen family lost control of Alleghany, which became the subject of a series of takeover battles before it ended up firmly in the controlled of the Kirby family by the 1970s.

[3] Note that Morgan had underwritten the issue of the bonds during the year before the deal in question and that the Bank had participated in the underwriting. *Litwin,* 25 N.Y.S.2d at 679-80, 692. Accordingly both Morgan and the Bank were familiar with the credit quality of the bonds. To be precise, the bonds were issued on May 1, 1929 and matured twenty years thereafter on May 1, 1949. The bonds were issued at 97.50, that is, with an **original issue discount** (OID) of 2.50.

[4] *See* MBCA 8.31 (Standards of Liability for Directors); ALI, Principles of Corporate Governance 4.01 (Duty of Care of Directors and Officers; the Business Judgment Rule).

[5] I emphasize the word *could* here to indicate that the rule is akin to rational basis review. *See* Jander v. Retirement Plans Committee of IBM, 910 F.3d 620 (2018), *vacated and remanded,* 140 S. Ct. 592, *reinstated* 962 F.3d 85 (2d Cir. 2020). *See also* Securities Act §12.

[6] This point is discussed in more detail in Part II of this essay. *See also* Richard A. Booth, *Stockholders, Stakeholders, and Bagholders (Or How Investor Diversification Affects Fiduciary Duty),* 53 Bus. Law. 429 (1998) (discussing how no-win deals fit into the business judgment rule).

[7] Although one might ordinarily think of an **investment** as the purchase of a stock or bond or indeed an entire business, every decision by a business at the business level is essentially an investment. In other words, the word investment can be used to refer to a single business decision or a package of such decisions.

[8] To be completely clear, if the best-case outcome is to break even but there is some possibility of suffering a loss, the weighted average of the two outcomes is necessarily a negative number. The fact that the deal might generate an ordinary return in the end, is not enough to justify the decision in the first place, although it may preclude legal action by investors. *See* Barnes v. Andrews, 298 Fed. 614 (S.D.N.Y.1924) (director cannot be held liable in damages unless his breach of fiduciary duty (BFD) caused the loss); Allied Freightways, Inc. v. Cholfin, 91 N.E.2d 765 (Mass.1950) (figure-head director is not liable for losses suffered by a corporation as a result of spouse's defalcations because their negligence was not the proximate cause of the loss). *But see* Francis v. United Jersey Bank, 432 A.2d 814 (N.J.1981) (elderly and alcoholic widow of company founder who serves as a director and was on notice that her sons were misappropriating funds liable because simple objection would likely have prevented

While the foregoing statement of the law is quite correct, the decision itself is quite wrong.

The Bank paid **par** (**face amount**) for the bonds even though they were trading for 105.50 at the time the deal was struck.[9] Thus, the **current return** on the bonds was 5.50 / 105.50 or 5.21% based on the market price. In other words, the market required a return of 5.21% on these bonds all things considered (such as the risk of default and the risk that interest rates might rise). But because the bank paid just 100 for the bonds, the bank secured a 5.50% return – or 29 **basis points** (BP) more than the 5.21% market rate of return.[10] Thus, it is incorrect to say that the deal was a no-win transaction. The fact that the bank assumed the risk that the bonds might decline in price to something below 100 must be weighed against the above-market rate of return to be received. That is a question of business judgment and is not actionable – or would not have been so in 1940.[11]

To be clear, the *Litwin* court does not find the directors and officers liable because they entered into a deal with no prospect of profit. Rather, the court finds them liable because the deal did not carry the prospect of *enough* profit. As the court saw it, the deal entailed extra risk without the prospect of extra return. But the court is wrong that there was no prospect of extra return to make up for the extra risk entailed from the grant of the option. Quite to the contrary, there was a substantial prospect of gain. And if there is *any* prospect of gain – however slight – the question becomes whether the gain is *enough* to justify the investment. Generally speaking, that is not a question that the court should have considered under the business judgment rule as it was understood at the time.[12]

But Wait. There's More.

The analysis could well end here. But the question remains whether the bank could have **hedged** away the risk of loss. If so, even an ordinary market rate of return – indeed any return – would have been sufficient. Moreover, if the bank *could* have hedged, the directors should not be held liable even though they chose not to hedge.[13] On the other hand, if there was no way to hedge away the risk of loss, then the defendant directors cannot escape responsibility for malfeasance unless the rate of return exceeds the market rate of return. To be sure, the rate of return did exceed the market rate. We know that because the bond was trading at a **premium** (for more than par). But even if the bond had been trading at par (or even less) and it was feasible for the Bank to **hedge** away the risk of loss, the deal might still be a perfectly good investment.

loss). *See also Smith v. Atlantic Properties, Inc.*, 422 N.E.2d 798 (Mass. App. 1981) (director who caused deadlock by refusing to agree to reinvestment of profits liable for adverse tax consequences).

[9] It is customary to omit dollar signs in quoting bond prices. Although bonds are typically sold in $1000 increments, they are quoted in 100s. Thus, bond price may be seen a percentage of **face** or **par**. To be clear, it is wholly coincidental in this case that bond price was 105.50 and that it carried a 5.50% coupon rate.

The *Litwin* opinion discusses at some length the fact that officers of the Bank agreed to the deal on October 15, 1930 (possibly the day before) and that the deal was consummated on the following day, October 16, 1930. But the transaction was not approved by the board of directors (BOD) until thereafter when the price of the bonds had fallen somewhat. *Litwin,* 25 N.Y.S.2d at 692-95. While this may seem to be a significant issue, it is quite clear from the context that the officers who executed the trade had been delegated the authority to do so as a near-necessity given the nature of the Bank's business. Indeed, the BOD could hardly fail to approve any transaction in the normal course without doing serious harm to a business built on the trust of counterparties. Thus, the function of BOD approval is akin to ratification of deals and trades already done – a *fait accompli*. The BOD has little choice in the matter unless an officer exceeds his authority or enters into a deal that he should have known would never be approved. As such, the position of the BOD is rather like that of a court (or special litigation committee (SLC)) considering a matter of business judgment. (Part II discusses SLCs and the power of corporation to seek dismissal of derivative action in some detail). So the fact that the BOD in *Litwin* did not reject the deal is significant and seems to indicate that it found the deal to be within the realm of the reasonable if not the desirable. Note that the *Litwin* court seems to agree in that it does not focus much on the formalities of approval. But it does make some such distinctions in assessing damages.

[10] In bondspeak, a basis point (BP) is one one-hundredth of a percentage point. As *Litwin* itself illustrates, it is often far too imprecise to speak in terms of full percentage points. For example, the difference between the **coupon rate** (5.50%) and the **current yield** (5.21%) and the **yield to maturity** (YTM) (5.26%) can hardly be conveyed by numbers rounded to the nearest whole percentage point.

To be clear, YTM is the most accurate way to value a **long bond** (one with many years until maturity) because it factors in both the value of periodic interest payments and the value of repayment of the principal. In contrast, current yield is easy to calculate but not as accurate as YTM. Nevertheless, the following discussion relies on current yield because the bonds will either be bought back at face (by Alleghany) or sold at face (to some counterparty) assuming the bank makes some arrangement to do so as discussed further below. To be completely precise, sale at face sixth months hence involves a loss – because a dollar to be received in six months is worth a bit less than a dollar. So one should net out the implied negative return.

[11] The question is whether new understanding of old issues is relevant. While it is clearly wrong for a court to be influenced by results – how a deal worked out in hindsight – it is not so clearly wrong to consider past decisions in light of new thinking. *See infra* text at note 58 (discussing art versus science in bond trading). *Cf. Kamin v. American Express Co.*, 383 N.Y.S.2d 807 (1976), aff'd, 387 N.Y.S.2d 993 (decision to pay dividend in property on which tax loss was available). Moreover, the *Litwin* court itself seems to consider the evolution of banking practice in noting that a 54-month loan was very long in 1930 while fifteen-year loans had become common by 1940. *Litwin,* 25 N.Y.S.2d at 722. It may also be that the common law differs from statutory law and administrative regulation in this regard. *See infra* text at note 46.

[12] To be fair, the court does recognize that the deal involved an above market rate of return. *Litwin* at 694, 699-700. But the court does not appreciate the significance of this fact.

[13] To be sure, the defendant directors would be on firmer ground if the minutes reflected some consideration of whether or not to hedge. But lack of any such record is not fatal since the directors can argue that they were familiar with the banking business from day-to-day involvement. *See* Smith v. Van Gorkom, 488 A.2d 858 (Del. 1985); Brane v. Roth, 590 N.E.2d 587 (Ind. App. 1992).

To explain: The 5.21% **current return** on the MoPac bond reflected a **maturity date** of May 1, 1949 – more than eighteen years in the future.[14] But if the bank could lock in a buyer for the bonds six months hence (if Alleghany failed to exercise the option), the subject trade should be seen as more akin to one involving **commercial paper** with a **maturity** date six months in the future.

At the time, long-term government **bonds** yielded 4.66% while one-month treasury **bills** yielded 2.41% (annualized) – a **spread** of 225 BP over the annualized one-month yield in 1930.[15] Thus, the rate of return to the bank arguably exceeded the market rate of return by 254 BP (this 225 plus 29 for the above market **coupon rate** (annualized)).[16]

To be sure, the Bank could always *say* that it planned to sell the bonds as soon as it could, thus transforming the bonds into the equivalent of six-month paper. By this logic, any bond – no matter how long – may be transformed into a shorter-bond by simply *thinking* it so. Something is missing, namely, the price of the option.

If the bank wants to make this argument, it must pay for the privilege of doing so. It must either buy a **put option** on the bonds or at least account for the cost of doing so.[17] If we want the right to sell the bond at 100 in six months, how much will it cost to buy that right? It is difficult to say

[14] *Litwin,* 25 N.Y.S.2d at 693.

[15] Roger G. Ibbotson, 2019 SBBI Yearbook, Appendix A6 at 16 & Appendix A14 at 40. This also illustrates the idea of bond **tenor**. A 30Y bond that was issued 29 years ago – a bond that matures in one year – is equivalent to a one-year note. If the bond pays $5 in interest annually and the going rate for a one-year note is 2% then the bond should trade for just under 103. This explains why bonds that are close to maturity may trade at par or better even if the **coupon** rate is well under the market rate. It also explains the idea of bond **convexity**. Once issued, a bond becomes continuously shorter-term until it matures such that its principal value must gradually rise (assuming a normal **yield curve**). So it is impossible to maintain a constant maturity portfolio without trading. It is also fallacious to think that all of the price gain from a bond comes from the skill of the bond trader.

By convention, government securities are known as **bills**, **notes**, and **bonds** depending on **duration -- time to maturity** – at the time of issue. A US Treasury Bill – **T Bill** – is a short-term instrument with a maturity of one year or less. T Bills pay no separate interest but rather are sold at a discount. US Treasury Notes **– T Notes – are issued in $100** increments with terms of two, three, five, seven, or ten years and pay interest twice per year until maturity. US Treasury Bonds – **T Bonds** – are issued in with maturities of 20 or 30 years and pay interest twice per year until maturity. No 20Y bonds were issued from 1986 to 1993, and no 30Y bonds were issued from 2002 to 2006. Thus, the only fully continuous data as to the long-term **risk-free rate of return** is derived from 10Y notes. Note that the US also issues so-called **Treasury Inflation Protected Securities** (TIPS).

[16] Again, this calculation ignores the effective reduction in return that comes from the fact that the Bank must wait for six months to get back the principal.

[17] Note the difference between **American Options** (which may be exercised at any time during the life of the option) and **European Options** (which may be exercised only as of the date of expiry). We do not know which sort of option was granted to Alleghany, but it seems likely from context that it was a European option. All else equal an American option must be a bit more valuable than a European option. But it is also more complicated to determine its value, which is why the earliest efforts to value options focused on European options.

precisely.[18] But the point is that there is some amount that the bank can pay to obtain an option that transforms the bonds into six-month obligations.[19] If the cost of the option is less

[18] The value (and thus the cost) of an option varies directly with the time to **expiration** and the **volatility** of the **underlying** (bond or other security). The longer the duration of the option or the more volatile the price of the underlying, the higher the value of the option. Option value also depends on the **exercise price** – the **strike price**. In the *Litwin* situation, it would suffice for the Bank to buy a put option at a strike price of 100 even when the bond is trading for 105.50. Such an option – with no exercise value at the time it is bought – is said to be **out-of-the-money**. As one might intuit, the value of an option varies inversely with how far it is out of the money. So the cost of a put option at 100 would be less than the cost of an **at-the-market** (ATM) put option – one that permits the holder to sell at the current market price of 105.50. For completeness, a put option that is **in-the-money** – one that permits the holder to sell at a price above the current market price should be equal in value to an ATM option plus the **intrinsic value** of the option – the amount by which it is in the money. Needless to say, these terms also apply *mutatis mutandis* to call options. But none of this tells us what an option is worth.

At first blush, one might think that an ATM option should be worth zero because there would be no gain from exercising it. Indeed, that is the rule for tax purposes: If one receives an ATM option to buy a share of employer company stock as compensation, one has no income until one exercises the option. And then the difference between market price and exercise price is taxable as ordinary income. *See* IRC 83. (A different rule applies to so-called qualified stock options under IRC 421ff. But that is a special case dealing with a targeted tax benefit.)

On reflection, it cannot be correct that an ATM option is worth zero. If someone gave you the right to buy AAPL at today's price anytime during the next five years would you bother to keep it, or would you simply throw it in the trash? Clearly, you would keep it because there is a really good chance that AAPL stock will increase in price over the next five years. And since an option gives you the right *but not the obligation* to buy AAPL, you need not worry about the possibility that the price of AAPL declines in the future. In that sense, owning an option is even better than owning the stock. So the option must be worth something. Indeed, a permanent non-expiring option to buy AAPL at today's price should be worth exactly the same as today's price of AAPL (less the value of receiving any dividends) because such an option gives you the right to capture all of the gain in price in AAPL going forward. Since that is exactly the same thing that one gets for the price of buying a share (except for the dividends), it must be worth the same thing.

The foregoing logic is the source of the **option premium** – the value of an option as an option – as distinct from the intrinsic value of the option. Although these ideas were no doubt known to sophisticated bankers in 1930, they were not reduced to a mathematical formula until the 1970s when the **Black Scholes Option Pricing Model** (BSOPM) was developed. Note that Myron Scholes won the 1997 Nobel Prize in Economics (together with Robert Merton) for his work on BSOPM. Fisher Black had died in 1995, a disqualifier for the prize which can only be awarded to a living economist (broadly defined). It is no coincidence that the **Chicago Board Options Exchange** (CBOE) was founded in 1973 shortly after the promulgation of BSOPM.

Note especially that the relationship of option price to volatility is the opposite of what it is for the **underlying** instrument. With a stock or bond, a riskier security is worth less than a less risky security. But an option on a riskier security is worth more than an option on a less risky security because the price of a riskier security is more volatile and thus more likely to rise or fall to the exercise price.

One ironic implication of this curiosity is that options granted by riskier growing companies are worth more than those granted by stodgier established companies -- which means that the accounting rule requiring that a grant of options be treated as an expense will have the general effect of reducing reported earnings for growth companies who are precisely the companies who need to rely most on options as compensation – both to attract talent and to conserve cash. *See* FASB, Statement of Financial Accounting Standards (SFAS) 123R (and promulgated 2006). As one might expect, the standard was vigorously opposed by Silicon Valley. Note also that it causes reported

than the extra return to be received, the deal makes sense.[20] So the question becomes whether the Bank bargained for enough return to buy the option.

In the alternative, we might ask whether the extra return is a fair price for the **call option** that was effectively sold to Alleghany. If such an option could be bought for the amount of the extra interest to be received (or less), the deal would be a good one for the Bank. In other words, the deal can be analyzed either in terms of what it would cost to *buy* a put option on the MoPac bonds or what someone else would *pay* to buy a call option on the same bonds.[21] That is, the cost of such an option indicates the wisdom of the transaction itself. If the extra return on the bond exceeds the cost of an option that eliminates the risk from the price of the bond falling below par, then the deal makes sense. Indeed, the deal would entail no additional risk at all. As such, the deal would be a classic example of **arbitrage** – entering into matching transactions in different markets so as to lock in a gain at zero risk.[22] If gain remains even after hedging – then

earnings to diverge even further from cash flow not only because the grant of an option entails no outflow of cash but also because it involves an inflow of cash upon exercise.

[19] And that amount is less than the amount it would cost to transform them into one-year obligations, which is less than the amount it would cost to transform them into two-year obligations, and so forth. Note that the bond can also be transformed into a longer bond by selling calls. *See infra* note 24.

[20] One might wonder about the risk that the **counterparty** to any such option – the writer thereof – might fail to perform as agreed if the Bank sought to exercise the option. This is not a worry if the option is purchased on an exchange because the exchange effectively guarantees performance – and thus worries about whether those who create options are good for their promises. The situation is different if the option is one negotiated privately as discussed further below.

[21] The fact that one could measure the subject deal either by reference to the cost (value) of a put option or the cost (value) of a call option illustrates the important idea of **put-call parity** – the idea that the value of the two must be mirror images (as adjusted for cash flow).

[22] Note that Scholes and Merton (together with John Meriwether) founded a **hedge fund** -- **Long Term Capital Management** (LTCM) -- based on the strategy of exploiting differences between market prices that should be related (as option price is related to stock price). The central idea was to buy and sell instruments whose prices are out-of-whack (so to speak) and then to wait until they revert to their proper relationship. LTCM collapsed in 1991 following a failure by the government of Russia to make an interest payment on its outstanding bonds. (The thinking was that such a default on **sovereign bonds** denominated in the currency of the issuer should never happen because the sovereign can always print more money which gives rise to **currency risk** with regard to such instruments. Contrast Argentina which defaulted on US dollar-denominated bonds.) The Russian default led investors in turn to sell other sovereign debt and to buy US government bonds thereby widening rather than narrowing the gap between prices that should have been related to each other. Because LTCM was required by many trading partners – **counterparties** – to **mark-to-market** its positions on a daily basis – that is, constructively to settle up many of its trades by constructively depositing assets into its constructive account, it ran out of money – at least constructively. To be precise, LTCM was required to post additional **collateral** (capital) under the terms of standard form contracts issued by the **International Swaps & Derivatives Association** (ISDA). In other words, LTCM was required to designate and segregate certain assets that it could not then reuse for trading purposes. Compare the situation in *Litwin.* As a result, LTCM could (and did) run out of assets – even if it stopped trading altogether – if its existing positions changed in value further against it. The impending collapse of LTCM necessitated a bail-out of sorts in which a consortium of banks assumed its positions – and ultimately realized the gains predicted by the models that prompted the trades. It just took longer to happen than it was supposed to do. See Michael Lewis,

the trade presumably has merit. Conversely, if the put option would cost more than the interest to be collected on the bond, the court might well conclude that the trade constituted waste and correctly hold the directors liable.[23]

The Business of Business is Business

The foregoing argument assumes that such options are available in the market or that someone could be persuaded to **write** such an option.[24] Indeed, the Bank (the Trust Company) did obtain a put option from a related bank (the Guaranty Company) – a wholly owned subsidiary with whom it had merged by the time of trial. But the court rejected this argument because (as the court saw it) hedging works only if *someone else* assumes the risk.[25] In effect, the court pierced the corporate veil between the two.[26]

How the Eggheads Cracked, NYT Magazine, Jan. 24, 1999 at 24; David Shirreff, *Lessons from the Collapse of Hedge Fund, Long-Term Capital Management* (unpublished manuscript).

[23] It might suffice that it was merely *possible* for the bank to buy such a put option (or otherwise hedge). To explain: The **counterparty** to any such hedge would need to price the hedge so as to make a profit. Accordingly, the bank might reckon that the value of the hedge is somewhat less than the advertised price and choose to retain the risk. So at the margin, some deals might pass muster even if the gain (here from the interest to be collected) is slightly less than the (retail) cost of the hedge. As noted above, the bank might choose to forgo the hedge – to self-insure – and save the cost of paying the (middle)man. But rather than relying on retail prices to evaluate the deal, one could simply do the math and calculate the theoretical cost of the hedge (as did LTCM).

[24] The obvious question is: Why would anyone write such an option? The answer is that the writer can sell the option for a price (the option premium) to someone like the Bank who needs it or someone who wants to buy it as a way of placing a bet that the price of the bond will fall – to speculate on such possibility. For example, the writer may want to invest in a bond (or other security) at a price that is lower than the current market price (as with a **limit order** in the stock market). Suppose an investor would like to invest in MoPac bonds at 80. The investor might write a put option with a strike price of 80, collecting the premium from the buyer. If the bond falls to 80, the writer may be required to buy at that price – which is the price at which they wanted to buy anyway. If not, the writer keeps the premium. Moreover, the process can be repeated indefinitely with the effect that the writer enjoys a stream of income from the fact that the bond continues to trade for more than the strike price. As such, writing puts can be a relatively conservative strategy for an investor who thinks a particular bond (or other security) is overpriced.

[25] The same is true of **leverage**. If I own a business that generates a return of 100 per year on 1000 of invested capital, the business generates a 10% rate of return. I might figure that I can increase the rate of return by borrowing 500 of the capital at 8% from the bank. I would then pay 40 to the bank and have 60 in return left on my (now) 500 investment for a 12% rate of return. Suppose I then have the bright idea of lending the money to myself to capture the interest. After all, why should I pay it to the bank if I have my own cash to lend? The problem is I have double thought myself back to Square One: My blended rate of return is 10% in the end. The fact that I lent myself half the money at 8% does nothing to increase by overall rate of return. The moral of the story is that you cannot achieve genuine leverage using your own money. You must use **other people's money**. Hence the eponymous Danny DeVito movie. The moral is that you must assume the risk that goes with being leveraged if you want the benefits of being leveraged.

[26] *See supra* note 2 (discussing corporate structure of the Bank). It is a nice question whether the subsequent merger should have the legal effect of eliminating the rationale for a transaction between two then separate businesses – like matter combining with antimatter. It is quite common in businesses of all sorts to house different

Nevertheless, the fact that someone at the time was in the business of **writing** (selling) such options indicates that such options were known and available. Moreover, the *Litwin* decision refers multiple times to the idea of options and notes many details as to how they work.[27] So the court itself was quite familiar with the idea.

Nor was the option to sell to the related bank all smoke and mirrors. The **writer** of the option – the Guaranty Company – was essentially in the business of insuring the obligations of others. In other words, it provided **bond insurance** – which is a real thing similar to **private mortgage insurance** (PMI) or **credit default swaps** (CDSs). Thus, the Guaranty Company was the 1930s equivalent of AIG in 2008.[28]

Moreover, given its business, the Guaranty Company no doubt held a large portfolio of assets – contracts by which obligors would pay them fees – just as an insurance company receives premiums from its policyholders. Both are in the business of assuming risk for a price. And no one would fault an insurance company because it must sometimes pay a claim.[29] Indeed, the *Litwin* decision suggests that the Guaranty may even have been the prime mover behind the deal because it affirmatively wanted the business of providing the guaranty that the Trust Company cited in its own defense – although we do not know the fee it charged. In any event, the *Litwin* decision indicates that Guaranty was quite eager to do the deal.[30]

This argument is equally persuasive with regard to the Trust Company, which presumably held a well-diversified portfolio of bonds. As such, Trust could easily afford to have a few bonds default.[31] Indeed, the company would expect as much – just as a life insurance company

operations in different corporations. ABC may want to acquire XYZ whose business it sees as quite promising or a good fit. But ABC might nonetheless want to avoid exposing its existing business to unknown (or even known) liabilities lurking in XYZ. Thus, ABC might prefer to hold XYZ as a subsidiary – rather than to merge with XYZ – in order to isolate the XYZ risks and avoid exposing the assets of ABC. Note that in the old days when most businesses were partnerships – and the corporate form was less readily available – businesspeople were required in effect to bet the farm – all their personal wealth – on every deal. The genius of the corporate form is that it permits one to decide how much to bet. So it is little wonder that it has prevailed. But the quid pro quo of free incorporation is – or should be – that each corporation must be managed in good faith to generate an adequate return within its own four walls. *But see* Bartle v. Home Owners Cooperative, 127 N.E.2d 832 (N.Y.1955).

[27] *See, e.g.,* Litwin, 25 N.Y.S.2d at 694.

[28] *See* American International Group, Inc. v. Greenberg, 965 A.2d 763 (Del. Ch. 2009) (Strine). *See generally* Richard A. Booth, *Things Happen,* 55 Villanova Law Review 57 (2010).

[29] Guaranty may also have held bonds for investment as do insurance companies.

[30] Insurance companies seek business (as anyone who has sat through a sales pitch knows).

[31] Although we do not know anything about the rating of the MoPac bonds, it is fair to presume that the market price (and thus the **rate of return**) reflected the possibility of default. In other words, the **premium** to or **discount** from par must build in compensation for the risk of default as compared to other bonds.

expects some number of insureds to die in any given year. As discussed further below, diversified investors seek the highest risk-adjusted return in connection with each individual investment they make. The **law of large numbers** dictates that return will comport with expectations if one holds a large enough portfolio. So not to worry. But if there is no reason to worry, there is no reason to hedge. Indeed, it is a waste of money to hedge if one is already fully hedged by virtue of being diversified. For a diversified investor to hedge any further – and to pay to do so – is like buying two insurance policies even though you can collect only once.[32]

Thus, the most fundamental problem with the *Litwin* decision may be that the *Litwin* court looks at the deal in isolation – as a one-off trade – rather than considering how the Bank may have been hedged internally. None of this can excuse agreeing to a no-win deal. Diversification works because winners outnumber losers. So to add a no-win transaction to the mix is contrary to the logic of diversification. But the fact that the Bank bargained for an above-market yield should be enough to enter the safe harbor of the business judgment rule.

As discussed further below, the function of the business judgment rule is not merely to protect directors and officers from liability for good faith decisions that go wrong. It also protects stockholders from opportunistic plaintiffs who might cherry pick losses on which to sue without regard to their fit in a portfolio of business – as if a stockholder in a life insurance company might sue the directors or officers because the company sold an insurance policy to someone who died.

Finally, the possibility of hedging answers the implicit question whether the investment should be treated as short-term or long-term. If it was possible to hedge away the risk of a decrease in the price of the bonds, then the case for short-term treatment is conclusive.[33]

To Hedge or Not to Hedge

Why does the *ability* to hedge matter if the bank declined (or neglected) to hedge? The answer is that the choice *not* to hedge may be the result of an affirmative decision to assume the risk of loss in order to save the cost of the hedge, thus increasing the gain from a successful trade. The

[32] As discussed further below, the logic of diversification has been particularly influential in the stock market. For one thing, it has led to the explosive growth of index funds. *See* Richard A. Booth, *Capitalist Manifesto* (forthcoming) (discussing logic of diversification and indexing). For another, it has led individual companies to rethink their own hedging strategies. For example, it famously led the Homestake Mining Company to announce that it would no longer engage in any hedging related to the price of gold because stockholders could do so themselves just as easily if that was what they preferred. *See* Richard A. Booth, *Reducing Risk Doesn't Pay Off,* Wall Street Journal, March 15, 1999, at A18; Richard A. Booth, *Henry Ford and the Google Guys,* THE QUANT, February 16, 2006. *See also* Brane v. Roth, 590 N.E.2d 587 (Ind. App. 1992) (finding BOD of small grain elevator business liable for losses from failure to hedge).

[33] To be more precise, one could analyze the Alleghany deal either way. But if the market is working as it should, the answer should always be the same. *See supra* note 15 (discussing treasury yield curve).

decision not to hedge is akin to the decision of many large companies to self-insure. In other words, to hedge usually entails forgoing some portion of prospective gain. So the decision not to hedge is a business decision that is separable from the underlying investment decision.

The *Litwin* court itself recognizes this point in limiting the damages awarded to the decline in bond price up to the expiration date of the repurchase option. Once the bank was free to sell the bonds, its choice to hold the bonds (or not) was a business decision protected by the business judgment rule.

To be sure, the *Litwin* court holds that the bank could not legally engage in any of the hedging tactics suggested by the defendants. But is that a correct legal conclusion? And did the defendants exhaust the possibilities in their argument to the court? The answer to both questions is almost certainly NO.

The *Litwin* court focuses primarily on the possibility of a **short sale**. To be sure, selling short is usually associated with betting that the price of some instrument will decline – which is a high-risk speculative trading tactic because the risk of loss is unlimited. But selling short can also be used quite conservatively as a hedge if one is worried that the price the instrument might fall.

To effect a short sale of a security, a trader borrows the subject security from someone who owns it and then sells the security at the prevailing market price. When the price declines, the trader uses the proceeds from the original sale to **cover** – to buy back the security at the new lower price and return it to its owner – pocketing the difference between the higher (prior) sale price and the lower (later) purchase price. In other words, one can make money in the market either by buying low and selling high or by selling high and buying low.[34] The order does not

[34] Needless to say, effecting a short sale requires that there be some way to borrow the subject securities – which may seem a tall order. But most investors leave their holdings of securities on deposit in their brokerage accounts. As a result, the broker has access to such securities and can lend them out – **hypothecate** them – just as a bank might lend out cash. So it is quite easy to borrow securities and do a short sale with the help of your broker. But there are strings attached. First, the short-seller must eventually buy back the security sold short. Thus, the proceeds of the short sale must be left on deposit with the broker through whom the short sale is effected. So as a customer, you cannot withdraw the proceeds. Second, as discussed in the text, there is a danger with a short sale that the price of the security may increase and that the short-seller may need to pay more to buy it back than was received. Thus, your broker will require that you deposit into your account some amount of cash or other securities – **margin** – that will cover any possible shortfall. Typically, a deposit equal to at least 50% of the proceeds from the short sale is required (per FRB margin rules). Third, because the original owner of the borrowed securities has no idea that they have been lent out – although they will have agreed to it in the terms of service (so to speak) when they opened their account – the short seller will be required to compensate the lender for any interest or dividends that might be paid on the shorted securities – because the buyer in the short sale will think they have bought real shares and thus will expect to receive the dividends. Despite the foregoing complications, it is ultimately almost costless to go short because one can deposit interest bearing securities as margin and one can invest the proceeds of the short sale in interest bearing instruments. But note that such securities must be marginable under FRB rules – that is they must be safe enough to constitute adequate security for the short position. Moreover, it is a bit of a worry that the instruments used for the margin deposit might themselves decline in price such that additional security will be required.

matter.[35] But in the case of a short sale one must eventually buy back the shares sold short to close out one's **position**. An old ditty sums it up:

He who sells what isn't his'n must buy it back or go to prison.

As noted, a short sale may be used to **speculate** – effectively to bet – on the possibility that the price of a security (or commodity) will fall. Such a short sale is quite risky because in theory one can lose more than the value of the subject security. For example, if I buy (**go long**) XYZ stock at 20, the most I can lose is 20. But if I **short** XYZ stock at 20 – betting that it will decline in price – there is no limit to the amount I might lose. If the price of XYZ increases to 100, I will lose 80 if I close out my position. That is exactly what happened to the **hedge funds** that shorted GameStop (GME) in 2021.[36]

In contrast, short selling can be used quite conservatively to **hedge** against a decrease in price of some instrument that one cannot sell or does not want to sell for some reason. Indeed, *Litwin* seems to be an excellent example of such a situation: One reason for the subject transaction in *Litwin* – albeit a flimsy one – was that Alleghany did not want to sell the bonds

Incidentally, it follows from the practice and practicalities of short sales (as well as the ability of traders to create options out of thin air) that issuers have less than complete control over what happens to the securities they issue. On the other hand, one way for an issuer to discourage short sales of its stock is to pay generous dividends because dividends make it that much more expensive for the shorts. Similarly, dividends also discourage the exercise of call options or conversion rights.

[35] In this sense, finance is indeed akin to physics where the laws of symmetry obviate the importance of order. Compare Exchange Act 16(b) which outlaws short-swing trading by statutory insiders (directors, officers, and 10% stockholder of registered publicly traded companies). This provision requires disgorgement of any profit or loss avoided from the purchase-and-sale or sale-and-purchase within a six-month period. Note also that rules promulgated under §16(b) also prohibit hedging within the six-month period for the purpose of locking in gains or avoiding losses but do not prohibit short sales against the box.

[36] The GME affair also illustrates the danger of a **short squeeze**. To cover, one must buy shares which means there must be shares available to buy in the market. But what happens if no holders are willing to sell? This is not likely to be a problem unless the number of shares sold short becomes relatively large in proportion **public float** – the number of shares (practically) available for public trading. In the case of GME, the number of shares sold short was about 132% of public float. Note that it is entirely possible for more shares to be sold short than actually exist since shares sold short become shares held long by the buyer and can they be lent out again to be sold short. Thus, one key ratio relating to short interest is the number of trading days it would take to cover the open short-interest given the average volume for the subject stock. All of this data is available from publications such as the Wall Street Journal and Investors' Business Daily.

Note the irony that a **hedge fund** might speculate by engaging in short selling. The explanation is that hedge funds were first formed to pursue a quite conservative strategy of both going long and going short so as to generate higher returns at lower risk for their investors. Because ordinary mutual funds were prohibited from doing short sales, it was necessary to limit the number of investors in a hedge fund to fewer than 100 so as to avoid regulation under the Investment Company Act of 1940. But the moniker of hedge fund came to be used to refer to any private and unregulated investment company.

because they were convertible.[37] To return to the above example, if I own XYZ stock – if I am **long** – and am worried that the price may decline, I can sell XYZ short at 20 without any worry that the price may increase. If the price increases to 100, I can cover the short sale with the stock I already own. I am **covered** or hedged (which is admittedly a somewhat confusing double use of the word). To be sure, I will have lost the benefit of the increase in price to 100. But I will have avoided the risk of loss that troubled me enough to sell short in the first place. Such a short sale is sometimes called a **short sale against the box** – perhaps conjuring the image of a stock certificate locked away in a safe deposit box somewhere.[38] In contrast, when one sells short to speculate, it is sometimes said to be a **naked** short sale reflecting the fact that one does not own the stock that is being sold.[39]

The *Litwin* court rejects the possibility that the bank could have sold short. The court seems to think that the bank promised not to sell the bonds. After all, the very reason for the transaction was that Alleghany wanted to avoid selling the bonds because they were convertible into common stock. That flimsy excuse notwithstanding, it is true that the bank did promise (in effect) to have the bonds on hand if and when Alleghany chose to exercise its option – or more precisely within one week thereof.[40] But that is true with every option. It does not prevent traders from writing **naked options**. It is always possible to buy the option security somewhere at some price when the time comes – even if writer must pay more than the exercise price. It is the writer's decision whether to take that risk.[41] So there is no reason to assume that the bank promised Alleghany that it (the bank) would refrain from any other transaction with any other customer that might conflict with the best interests of Alleghany.[42]

Nevertheless, the *Litwin* court is correct for the wrong reason. A short sale of MoPac bonds would not work in these circumstances. Consider what would happen if the bank did sell short. There is no problem if the bonds decline in price. Alleghany would be unlikely to exercise. Even if Alleghany were to exercise, the bank could always buy MoPac bonds at the lower price to fill

[37] The court dismisses this argument because the stock was trading at 44 while the conversion price was 100. But someone who wanted to gain control of MoPac might have been willing to pay a big premium to do so. Moreover, converting the bonds (if bought) into stock would reduce the debt of MoPac (as the target company) which might well be consistent with an acquiror's plans.

[38] Perhaps a better example is a stock that is held in a trust.

[39] The fact that a short sale – as well as a forward sale or future – can be used either as a conservative hedging technique or a risky method of speculating gives rise to an elaborate system of rules imposed mostly by exchanges relating to the amount of margin that must be posted by traders.

[40] Litwin, 25 N.Y.S.2d at 693. "We should be glad to have you give us a week's notice of your election to exercise such option in whole or in part."

[41] Nevertheless, the conversion feature does make these bonds less than totally fungible with other bonds.

[42] *See* Franklin Savings Bank v. Levy, 551 F.2d 521 (2d Cir. 1977); In re Goldman Sachs Group, Inc. Shareholder Litigation, 2011 Del. Ch. LEXIS 151, *aff'd,* SEPTA v. Blankfein, 44 A.3d 922 (Del. 2012).

this order (using the cash proceeds from the short sale and pocketing the difference).[43] On the other hand, if the bonds *increase* in price, Alleghany will certainly exercise. If the bank is short, it will need *both* to **cover** its short position and to **fill** the repurchase order by Alleghany. In other words, for the bank to hedge by shorting MoPac bonds is simply to transform the risk of a price decline into a risk of a price increase.[44]

Déjà vu All over Again

One last noteworthy feature of the *Litwin* decision is that the court sees a short sale as creating a contingent **off-balance-sheet** liability that may obscure the bank's true financial condition from the public. The court seems to assume that a reasonable depositor will make it a practice to check the bank's financial statements before doing business with the bank.[45] That may well be true among very large depositors – and may have been even more so in the 1930s than it seems to be today. But it is unlikely that a court today would think in similar terms. Rather, a court would more likely ask whether the strategy is one that is prohibited by regulation.[46] Moreover, it is difficult to believe that banks such as those involved in *Litwin* did not routinely engage in short-selling and other similar strategies at the time. Indeed, such practices were the

[43] Again, this assumes a sufficient supply of such bonds in the market. If there are no bonds available to buy, the short might not be able to cover. *See supra* note 36 (discussing short squeeze).

[44] As the *Litwin* court notes, a **forward sale** has the same problem. A forward sale is essentially a **futures contract** – an agreement to sell something at a specified time for a specified price (coupled of course with an agreement by a counterparty to buy on the same terms). Assuming one owns the **underlying** instrument – a forward sale is equivalent to a **short sale against the box** but is presumably cheaper in that there is no need to borrow the item to be sold – which will invariably involve fees charged by a broker house or other source. Then again, a forward sale may involve dealing with some intermediary (or exchange) in order to find a counterparty.

[45] To be fair, Morgan was what came to be called a **money center bank** – one with what might now be called **systemic significance** – a bank whose business was largely limited to big corporations and one that had few individual depositors other than CEOs and other high-level officers (HLOs) of corporations. At the time, there were thousands of small retail banks that dealt with consumers.

Similarly, *Litwin* is sometimes cited for the proposition that the rules are different for banks – that the duty of care for directors is heightened and thus that the business judgment rule is somewhat easier to overcome. WILLIAM L. CARY, CASES AND MATERIALS ON CORPORATIONS (Foundation Press 4E 1969) at 514. As discussed further in Part II, this distinction is arguably illusory. It may seem that bank directors are held to a higher standard because it is easier to prove a BFD where the issue is easily expressed in simple mathematical terms.

[46] Part II of this essay addresses the relevance of laws and regulations governing specific businesses – including banks – in the analysis of BFD claims.

subject of federal banking and securities legislation in 1933 and 1934.[47] So even Congress was aware that such tactics were common.[48]

Ironically, the problem described by the *Litwin* court is essentially the same problem that lay at the center of the 2008 financial crisis. To be sure, the more recent meltdown was triggered by over-investment in residential mortgages and (as a result) in housing. That was accomplished by rolling hundreds or thousands of smallish loans into debt securities that were held by commercial banks – either for sale to investors or for investment by banks themselves.[49] Moreover, the risk of loss on such **collateralized debt obligations** (CDOs) and **collateralized mortgage obligations** (CMOs) was often hedged using **credit default swaps** (CDSs) – essentially bespoke insurance policies by which someone (often AIG) promised to compensate the holder in the event of default.[50] As it turned out, AIG was banking (so to speak) on what it thought was the extremely low risk of default and was quite happy to collect premiums for insurance that it thought would never be triggered – which led to its own excessive investment in CDSs. But no one knew the extent to which bank solvency depended on hedges that might turn out to be quite worthless if AIG failed – as it almost did.[51]

Aside from history repeating itself (or at least rhyming), the question is: What could the bank have done in *Litwin* to hedge against the possibility that the MoPac bonds might decline in price by enough that Alleghany would fail to buy them back? We have seen that a short sale will not work. But we have also seen that a put option might do the job and indeed that such options appear to have been available at the time. Might there be still other ways?

To answer this question we must consider the possible reasons why the bonds might decline in price. What really is the worry?

There are two. One is the possibility that MoPac might default or be downgraded – that MoPac might come to be seen as a riskier company by the market. The other is that interest rates

[47] Moreover, the *Litwin* court notes that one case cited by the parties can be distinguished because it was part of a scheme intended to depress the price of the stock for the benefit of the customer! *Litwin* at 697.

[48] To be fair, the *Litwin* court recognizes all of the other cases it cites involve banks agreeing to buy back securities that have been offered or underwritten by the bank itself and that no case involving an agreement to sell had previously could be found.

[49] See generally Richard A. Booth, *Things Happen,* 55 Villanova Law Review 57 (2010). Ironically, the process of constructing a CDO typically involved the sponsor bank raising money in the commercial paper market to fund the purchase of the mortgages that were **rolled up** into long-term bonds. *See supra* text at note 14 (explaining how the Bank in Litwin might have transformed the MoPac bonds into the equivalent of commercial paper).

[50] *See generally* American International Group, Inc. v. Greenberg, 965 A.2d 763 (Del. Ch. 2009) (describing the CDS business in detail).

[51] It may be that the Bank in *Litwin* (like AIG in 2008) thought there was no risk that MoPac might default and thus was quite happy to collect the interest.

might increase in general in the broader economy. As it turns out, it was the former that caused the loss suffered by the bank.[52] But we need to consider the subject business decision as the directors and officers of the Bank would have done at the time – without the benefit of hindsight.

Regarding **interest rate risk**, it would have been quite easy for the bank to hedge by shorting government bonds of similar **tenor** – either by an outright short sale or by selling interest rate **futures**.[53]

Regarding **default risk**, the bank would need to find some way to bet (in effect) on a downturn for MoPac individually. One way to do that is to buy a put option on MoPac common stock. If the price of MoPac bonds falls because of looming default, presumably the price of MoPac stock will fall even more. Because stocks are inherently riskier than bonds, one would expect stock price for a given company to fall more dramatically than its bond price.[54] So buying a put option on an amount of MoPac stock equal in value to the bonds should more than compensate for any loss suffered on the bonds themselves.[55] Of course, we would not want to buy any more

[52] *See Litwin* at 701. There is a third possibility – that the bond market might simply stop working and that buyers might not be found at any price. *See, e.g.,* Metropolitan Life Ins. Co. v. RJR Nabisco, Inc., 906 F.2d 884 (2d Cir. 1990). This was also the fear in the 2008 credit crisis.

[53] *See supra* note 15 (discussing bond tenor).

[54] *See supra* note 18 (discussing volatility).

[55] At first blush, the naturally higher volatility of stock prices may seem to promise a really clever way to hedge against changes in bond prices. But alas there is no free lunch here. Unlike most securities, options increase in value as the underlying stock increases in volatility. In other words, with options higher risk translates into higher price – because higher volatility increases the chances that stock price will fall (or rise) to the exercise price for the option. By this logic, a bond option will be cheaper than a stock option all else equal. More to the point, the cost of a stock option will be much higher than that of a bond option (assuming both are available).

Aside from hedging as to the default risk of MoPac, it might suffice for the bank to show that the MoPac bonds were rated as investment grade by some independent **credit rating agency** (CRA). For most mere mortals, reliance on a bond rating is close to an absolute defense. In other words, one need not look behind the rating to demonstrate due diligence. But the bank itself had underwritten the bonds mere months earlier and would have been instrumental in obtaining the rating. So this defense would not ring true. Moreover, the issue was granting the option to sell back the bonds. *Cf.* Franklin Savings Bank v. Levy, 551 F.2d 521 (2d Cir. 1977) (implicitly questioning whether a dealer in commercial paper can rely on ratings by a CRA when the dealer has additional information possibly inconsistent with the rating).

To be sure, there may be an anachronism imbedded in this point. While it was quite common in the run-up to the 2008 credit crisis for bond issuers to be heavily involved in the rating process (and to structure instruments to achieve a desired rating), that may not have been the practice in 1930. Indeed, it may be that the MoPac bonds were not rated at all other than implicitly by the reputation of the Bank as underwriter. For the record, the Dodd-Frank Act of 2010 was intended to curtail issuer involvement in the rating process by imposing liability on CRA that previously were largely protected by the First Amendment (since a rating seen as an expression of opinion). See Richard A. Booth, *Things Happen,* 55 Villanova Law Review 57 (2010).

insurance than we need. So it might take some effort to figure out how many options will do the job. But the point here is the idea. It is not to do the math.[56]

The bottom line is that there were likely many ways for the bank to hedge against a possible decline in MoPac bond price other than a short sale or forward sale – both of which were rejected by the court. And it may have been sufficient for the defendant directors merely to identify one such way irrespective of the cost. In other words, it may have been enough to show that the risk of loss from a decline in price for the MoPac bond could be avoided – whether or not the bank did in fact hedge. But to be rigorous, the question is whether the cost of the hedge would leave the bank with any profit at all.[57]

To be fair, it may not have been possible in 1930 to do some of the trades discussed here. But that does not undermine the argument. Rather, it merely suggests that bond traders had fewer tools at the time and were forced to live more by their wits – to intuit the risks – which in turn suggests that any extra gain should have sufficed to absolve the directors. Think *Billions* meets *Outlander.* In other words, bond trading in 1930 was more art than science. Today, plaintiffs might need to show in detail why a hedge would not work. In 1930, the benefit of the doubt – the room for discretion under the business judgment rule – would have been quite ample.[58] So it really makes no difference whether it was possible in 1930 to trade options on bonds or interest rate futures.

More generally, this story demonstrates the potential demand for all sorts of new markets and explains why they continue to emerge. To paraphrase Jimmy Stewart in *It's a Wonderful Life,* Why do we have to have all these financial products? *Litwin* answers the question. Neither a short sale nor a forward sale will work for the Bank. But a put option does the job because it gives the Bank the right but not the obligation to sell.

The question then is why do we have short sales and forward sales if we can always buy a put option? The answer is that it is easier and thus cheaper to sell short or forward. To buy a put option is more expensive because the counterparty must be compensated for writing the option. Why else would they do so? With a short or forward sale, the issue simply does not arise. All that is necessary is to find a buyer of the bond itself – now or later. It is precisely because an option permits the holder either to exercise or not that we must pay an option **premium** – because the writer assumes more risk. With a short sale or a forward sale, the Bank

[56] For an interesting case in which investors sold shares of conversion stock against the box of the mother instrument in order to strip current return from principal, see H. B. Korenvaes Investments, LP. v. Marriott Corp., No. 12922, 1993 Del. Ch. LEXIS 105 (July 1, 1993).

[57] This illustrates the relevance of option pricing for much more than pricing options.

[58] Successful challenges to matters of business judgment are more common today precisely because we understand finance better than we did in the old days. *See* Richard A. Booth, *Scienter Under State Corporation Law* (forthcoming) (discussing ironic effect of DGCL 102(b)(7) which was intended to reinforce the business judgment rule but may have done just the opposite).

commits to selling and the buyer agrees to buy – whatever their reason for doing so might be. Thus, if a short or forward sale will work, that is what we should do. But in the *Litwin* situation, the Bank would not have had that option – so to speak.[59]

Finally, this story also illustrates the point that it is possible to construct instruments or positions – **synthetics** – that are almost perfect equivalents of each other. For example, a put option is quite similar to a short sale which is quite similar to the sale of a futures contract. In other words, there is more than one way to skin a cat. The precise risks of each are slightly different. So the cost may differ a bit. But in theory one should be able to check the price of one versus another – which means that traders will exploit any discrepancies and drive prices into conformity with each other.[60] Thus, it is a bit ironic that the *Litwin* court itself emphasizes that the subject deal was not a subterfuge for a loan but a *substitute* for a loan.

Conclusion

This essay has focused on the classic 1940 case *Litwin v. Allen* in which the court ruled that directors and officers of a bank were liable for losses suffered by the bank from a transaction in which the bank bought a bond at a discounted price subject to an option permitting the seller to buy it back at the same price (up to) six months later. The price of the bond fell dramatically during the option period, the seller declined to buy it back, and the bank was left with the loss. The court ruled that the defendant directors and officers were not protected by the business

[59] Some commentators have argued quite seriously that we should do something to stop the proliferation of financial products because they facilitate wasteful trading or do positive damage to the real economy if only by diverting economic energy to no useful end. *See, e.g.,* Lynn A. Stout, *Are Stock Markets Costly Casinos? Disagreement, Market Failure, and Securities Regulation,* 81 Va. L. Rev. 611, 616 (1995).

Following the quite surprising stock market crash of October 1989, many commentators argued that it had been caused by program trading which involved the simultaneous trading of stock index futures and the underlying stocks. It was argued quite seriously at the time that there was no real need for stock index futures (which were traded on the commodities exchanges) and that such contracts should be prohibited – citing the bizarre episode that led to outlawing the trading of futures on onions. *See, e.g.,* Onion Futures Act of 1958, 7 USC 13-1. (Incidentally, the law was amended in 2010 to prohibit trading in motion picture box office futures at the behest of the MPAA.) *See generally* Lynn A. Stout, *Regulate OTC Derivatives by Deregulating Them,* 32 Regulation 30 (Fall 2009). *See also* Board of Trade v. Christie Grain & Stock Co., 198 U.S. 236 (1905) (opinion by Holmes) (recounting efforts to prohibit bucket shops and addressing IP rights thereof).

In the end, stock index futures survived the Luddites because (for example) they permit well diversified investors (such as mutual funds) to hedge against the effects that their own trades may have on the market. But the success of index futures – together with the development of index funds – suggested there might be a market for an instrument permitting trading and investing in the market as a whole – which led to the idea that there might be demand for an index fund that could be traded throughout the day – just like individual stocks. As a result index ETFs (**exchange traded funds**) were born – the best known of which is SPDRs (which tracks the S&P500). Today such index ETFs hold about 20% of all stock by market value. Yet such funds were unknown before the mid 1990s. *See generally* Richard A. Booth, *Capitalist Manifesto* (forthcoming).

[60] I am reminded here of the words of Handel's Messiah about exalting valleys and making rough places smooth. I question the wisdom of messing with the landscape. But if Handel had arbitrage in mind, I am all for it.

judgment rule – which precludes liability for losses from good faith business decisions – because the deal entailed assuming an extra risk of loss without the prospect of extra return. In effect, it was a no-win bet in which the bank would break even at best. Thus, *Litwin* articulates one way that corporate management (and indeed any fiduciary) can be held accountable for losses suffered by the corporation (or principal) other than because of a disabling conflict of interest.

Although the *Litwin* court states the rule correctly, it is wrong on the facts. What the court fails to see is that the bank *did* bargain for extra return because it bought the bond at a discount from market value. Moreover, the bank could have hedged against the risk of loss and may already have been hedged by virtue of diversification. But to understand why the result in *Litwin* is wrong one must understand the fundamentals of time value of money, going concern value, option pricing, portfolio theory, and many other topics typically covered in a class on corporate finance. Conversely, *Litwin* itself can be seen as a short course on the legal aspects of corporate finance. In short, this seemingly simple dispute arising at the very beginning of the Great Depression and decided ten years later on the eve of WWII was (and remains) a teachable moment.

about ECGI

The European Corporate Governance Institute has been established to improve *corporate governance through fostering independent scientific research and related activities.*

The ECGI will produce and disseminate high quality research while remaining close to the concerns and interests of corporate, financial and public policy makers. It will draw on the expertise of scholars from numerous countries and bring together a critical mass of expertise and interest to bear on this important subject.

The views expressed in this working paper are those of the authors, not those of the ECGI or its members.

ECGI Working Paper Series in Law

https://ecgi.global/content/working-papers

Electronic Access to the Working Paper Series

The full set of ECGI working papers can be accessed through the Institute's Web-site (https://ecgi.global/content/working-papers) or SSRN:

Finance Paper Series	http://www.ssrn.com/link/ECGI-Fin.html
Law Paper Series	http://www.ssrn.com/link/ECGI-Law.html