Avoiding a Hostile Takeover

There is a new kind of competition in land-based capitalism called a hostile takeover. Suppose a city can only support two hardware stores, and there are already two hardware stores. Rather than start a third hardware store and drive everyone's profit to zero, and wages to subsistence, an existing hardware store can be trebled in a hostile takeover. See how trebling of location monopoly maximizes the general welfare.

How can an existing hardware store owner determine a safe, yet efficient, rent that will protect it against hostile takeover?

There are two upfront costs in a hostile takeover that cannot be collateralized: the 33% structure premium and, in some cases, ground rent exceeding 100% of profits in the first few months. The projected time it takes to recover these costs determines the efficacy of the treble.

The discounted opportunity cost (the money that would be made by putting this money in the bank, rather than by taking over the business) of these funds is trivially the actual value. In other words, if $100 earns 5% in a year, and then is discounted by 5%, its discounted value after a year is still $100. This is true for any length of time, provided the interest rate and discount rate are the same.

To a business, twenty years is an eternity. Any entrepreneur who would have done better in twenty years investing their money at the current interest rate, rather than taking over the company, should stick with investing at the interest rate. This is the test used to determine whether the rent is high enough to be "safe" from any rational person taking over the company, or too low and "unsafe". The goal is to run the spreadsheet to find the lowest rent that is still "safe" from hostile takeover.

Results are computed from the value of a few simple parameters. Perhaps the hardest parameter to accurately set is the annual average risk of business failure over the twenty-year period. For new small business, 18.4% fail within the first year, and 65.5% of small businesses fail within 10 years.

Over 10 years' time, this is an average annual risk of 10% (6% over 20 years). In a hostile takeover, however, the business is already established. The same data shows that the average annual risk of an established business failing is closer to 2%.

Vacancy risk is accounted for in the cost of renting offices and apartments, so for rentals, this would be the risk of unexpected vacancies from an exogenous event, such as a local factory closing. A 1% risk is reasonable for rentals. For safety's sake, the person running the spreadsheet should **underestimate** the risk. The entrepreneur planning a hostile takeover should overestimate the risk.

Parameter Setting in the Spreadsheet

The **NEBR** (Net Earnings Before Rent) is annual revenue minus known annual costs

Current Risk of Failure	2%

before considering rent. There are a few exceptions. While interest and depreciation on the structure are included in NEBR when doing a hostile takeover, they are obviously excluded for a demolition (covered in the next module).

Interest cost on the refundable 1-year advance rent is not included in NEBR. Taxes, if any, are included. However, when comparing expected ground rent with a current property tax, exclude the cost of the property tax when computing NEBR.

Current NEBR (Net Earnings Before Rent)	$7,000	◉ Hostile Takeover
		○ Demolition and New Construction
Current Risk of Failure	2%	

Spreadsheet Parameters

Variable descriptions change if Demolition and New Construction checked instead.

Estimated Future NEBR (Net Earnings Before Rent)	$3,500,000	○ Hostile Takeover
		◉ Demolition and New Construction
Future Risk of Failure	4%	

Spreadsheet Parameters

For demolitions, only the earnings and risk of the future business is important.

The interest rate is used to discount future cash flows. For instance, if there is a cost of $1.05 next year, only $1 needs to be saved today, since it earns 5% interest before the money is due. It is also used as the interest rate on the 1-year advance rent held in escrow.

Interest Rate	5%

Spreadsheet Parameter

The existing structure value is the value of the [depreciated replacement cost](#) of the existing structure. Whether this is a hostile takeover or a demolition, it is the value of the existing structure that is important. A quick and dirty way to compute depreciated replacement cost is to compute the replacement cost as AverageCostPerSquareFoot x NumberOfSquareFeet.

Of course, average cost varies from city to city and with building type, but $175/sq. ft. is reasonable. The U.S. Census Bureau [shows](#) an average single family home construction cost per square foot of $170.20 and average multi-family home construction cost per square foot of $191.60.

It is much harder to estimate the depreciation. Structure subsystems are often replaced at different times, and have different lifetimes. For a quick and dirty method, and barring additional information, set full depreciation at 100 years. MAX ((100 years – Age of Structure)/100 Years, 0).

Ballpark Depreciated Replacement Cost (Existing Structure Value):
$175 x NumberOfSquareFeet x MAX ((100 years – Age of Structure)/100 Years, 0)

Existing Structure Value	$35,000	Spreadsheet Parameter

The main "what-if" variable is the percentage of profits that will go toward rent. The percentage should be increased to the lowest value where the word SAFE appears in green at the bottom of the spreadsheet.

Percent of Profits for Rent	38%				Opportunity Cost	Net Profit	
Total	SAFE! Because opportunity cost more than net profit after 20 years				$146,142	$142,699	$1,767

The percentage of profits going for rents is likely too low if the following appears.

Percent of Profits for Rent	37%				Opportunity Cost	Net Profit	
Total			** UNSAFE ** because opportunity cost less than net profit after 20 years		$145,494	$146,771	$1,119

In the first case, the discounted opportunity cost of $146,142 is greater than the $142,699 discounted profits they would make from the business in the 20 years following trebling. It would be better to simply earn interest on the money.

In the second case, the discounted opportunity cost of $145,494 is less than the discounted profit of $146,771 the trebler would make from the business following trebling. It is better to treble and take over the business.

Of course, there are many variables. The 20 years is rather conservative. It is likely most people would not treble if they could not do better than the bank in 10 years' time. But it only takes one.

Employee salaries are expensed and independent of profits, so a wealthy rich kid who wants to play CEO might treble in any case. Of course, a person who can run the business with much greater efficiency will not be stopped by a reasonably high rent.

Still, I would hazard a guess that over 99% of businesses that maintain a safe and efficient rent (lowest possible safe rent) will never see a hostile takeover. After all, there will be plenty of businesses that allow their rents to freely fall, diverting the hungry gaze of treblers from any business that pays a safe and efficient rent.

Here is the entire spreadsheet. It is a real-life example of a 400 sq. ft. studio condo I owned in Lincoln Park, an exclusive area of Chicago. The 50% depreciated value of the structure (it was a mess) is $35,000.

Excluding property taxes of $2,200 for comparison purposes, the NEBR is $7,000. A rent safe from treblers is $5,110, over twice the property tax. Land-based capitalism is not kind to slumlords. Avoid high depreciation.

Avoiding a Hostile Takeover or Safe Demolition Treble

Current NEBR (Net Earnings Before Rent)	$7,000	Hostile Takeover	Sunk Structure Cost always equals discounted opportunity cost in any given year	
		Demolition and New Construction		
Current Risk of Failure	1%			
Percent of Profits for Rent	73%		Sunk Structure Cost	$11,550
Interest Rate	5%	Caution: Lower interest rates require higher ground rents!	1	
Existing Structure Value	$35,000			
	$0			

Year	Discounted Profit at 5%	Cost of Failure Risk at 1%	Trebled Rent at 73% net profit	Interest on 1-Year Advance Rent	Discounted Risk, Rent and Costs	Profit After Rent, Risk and Advance Rent Interest
0	$7,000					
1	$6,667	$70	$10,217	$511	$10,217	($3,551)
2	$6,349	$139	$5,110	$256	$4,867	$1,483
3	$6,047	$208	$5,110	$256	$4,635	$1,412
4	$5,759	$276	$5,110	$256	$4,414	$1,345
5	$5,485	$343	$5,110	$256	$4,204	$1,281
6	$5,224	$410	$5,110	$256	$4,004	$1,220
7	$4,975	$476	$5,110	$256	$3,813	$1,162
8	$4,738	$541	$5,110	$256	$3,632	$1,106
9	$4,512	$605	$5,110	$256	$3,459	$1,054
10	$4,297	$669	$5,110	$256	$3,294	$1,003
11	$4,093	$733	$5,110	$256	$3,137	$956
12	$3,898	$795	$5,110	$256	$2,988	$910
13	$3,712	$857	$5,110	$256	$2,845	$867
14	$3,535	$919	$5,110	$256	$2,710	$826
15	$3,367	$980	$5,110	$256	$2,581	$786
16	$3,207	$1,040	$5,110	$256	$2,458	$749
17	$3,054	$1,099	$5,110	$256	$2,341	$713
18	$2,909	$1,158	$5,110	$256	$2,229	$679
19	$2,770	$1,217	$5,110	$256	$2,123	$647
20	$2,638	$1,275	$5,110	$256	$2,503	$136
					Opportunity Cost	Net Profit
					$15,101	$14,782
Total	SAFE! Because opportunity cost more than net profit after 20 years					

The rent by year 2, having dropped by 66.67% annually, is frozen at the safe $5,110 or 73% of the NEBR.

This is safe until rising neighborhood rents or increased depreciation push up the rent.

If the condo were kept in top shape, ground rent as a percentage of NEBR would be much lower.

A brief overview of the columns and their formulas along with some fields:

Year	The year of operation	0 through 20
Discounted Profit at 5% (Interest_Rate)	Beginning with the NEBR in Year 0, and assuming profits remain constant in real dollars, this column displays the present value of 20 years of profits.	=-PV (Discount_Rate, Ann, 0, NEBR) where cell Ann contains the year, and nn is the current spreadsheet row number.
Current Risk of Failure at 1% (Risk)	The risk of a change in market demand and other uninsured and otherwise unaccounted for risks. Only the bolded final row is included in the cost total.	=NEBR*(1 - ((1 -Risk) ^ Ann)).
Trebled rent at 73% (Percent_Profits) net profit	Trebling of rent equal to the specified percent of NEBR and then falling by 66.67% a year until it returns to its original value. Rents are based on average rent for the year.	**Year 1:** =((Percent_Profits*NEBR*3+ Percent_Profits*NEBR*3*0.33)/2). **Later Years:** =IF(Dnn*0.33 > NEBR*Percent_Profits, Dnn*0.33,NEBR*Percent_Profits) where cell Dnn is the rent for the **previous** year and nn the row number of the **previous** row.
Interest on 1-Year Advance Rent	One year's advance rent is kept in escrow. As rents fall, the excess is automatically refunded. This is the same interest rate used for discounting.	=Dnn*Interest_Rate where cell Dnn is the rent for the **current** year and nn the row number of the **current** row.
Discounted Risk, Rent and Costs	This is the present value of the total costs identified in the previous columns. Only the final Cost of Failure Risk (Year 20) is included in the total.	**All But Last Row:** =-PV (Discount_Rate, Ann, 0, Enn + Dnn). **Last Row:** =-PV (Discount_Rate, Ann, 0, Enn + Dnn + Cnn), where nn is the current row, Ann is the Year column, Enn is the interest on advance rent column, Dnn is the Trebled Rent column, and Cnn is the Cost of Failure Risk column.
Profit after Risk, Rent, and Advance Rent Interest	This is the Discounted Profit entry minus the Discounted Risk, Rent, and Costs entry. The sum of this column is at the bottom under the heading Net Profit.	=Bnn – Fnn where Bnn is the Discounted Profit entry, Fnn is the Discounted Cost entry, and nn is the current row.
Opportunity Cost of Negative Balances	If Discounted Costs is greater than Discounted Profit and results in a negative balance, funds are required to make up the difference. The opportunity cost is what could have been realized if those funds were invested at the interest rate. The total is displayed at the bottom of the column.	=IF (Gnn < 0, -Gnn, 0) where Gnn is the Profit after Risk, Rent, and Advance Rent Interest and nn is the current row number.
Field: Sunk Structure Cost	This is the 33% premium on structure for a hostile takeover, and 133% of the existing structure value for a demolition. The field is set automatically. It is not a parameter.	=(IF(F6 < 2, Existing_Structure_Value* 0.33, Existing_Structure_Value*1.33)) where F6 is a 1 or a 2 in the cell under the sunk structure cost, depending on whether Hostile Takeover, or Demolition and New Construction is checked.
Field: Opportunity Cost	The discounted opportunity cost computed by adding the sunk structure cost to the total of the Opportunity Cost of Negative Balances.	

Paying 73% of net profit as rent is rather high. The reason is that the condo was 50% depreciated and had only a tiny footprint on exclusive Lincoln Park land. It highlights how important structure maintenance is in keeping rents low. Slumlords (out of code, condemnable building) must pay over 80% of net rents to prevent a hostile takeover from developers (or other slumlords looking to make a quick buck).

In reality, even a rent of 100% net profits will fail to prevent a more efficient user from trebling the land, demolishing the worthless structure, and building something new. New construction trebles are the subject of the next module.

Is a hostile takeover worthwhile?

Why pay a 33% premium on an existing structure, when a brand-new structure could be built for around the same cost? Why treble already high rents, when much, much cheaper rents can be purchased, without trebling, several miles away?

If there are 2 hardware stores on opposite sides of town, they might both enjoy high pricing power, leading to bigger profits, higher wages, and less stressful working conditions. To protect their profits, these hardware stores are prepared to pay a chunk of those profits as rent.

The benefits of starting a third hardware store are penny-wise and pound-foolish. Both established hardware stores will unfreeze their rents at the first whiff of competition and allow them to fall at 66.67% annually. The market risk has increased significantly, and with that ground rents can fall.

Money saved on rents can translate into lower prices. With demand split between three stores instead of two, net earnings before rent (NEBR) will fall as well. This puts further downward pressure on rents. But rent does not fall for the new hardware store.

The rent for the new store is based only on its location. And location does not change with the price war. The business model of the new hardware store assumed old pricing, but prices have fallen with the ground rent of the established players.

The new hardware store is saddled with the fresh cost of new construction, reducing pricing power. Meanwhile, the two established firms are likely in optimal locations. Customers will not go out of their way to the new store in order to pay even higher prices for merchandise!

When pricing power is destroyed, so too are rents. Nobody will voluntarily pay rent for a business that brings in no profit. Thus, starting a third hardware store is lose-lose-lose. The third hardware store will ultimately fail.

NEBR, profits, wages, and rents will fall at the two established stores and rent revenue for the people of the world will fall. The best practice is to treble for a location monopoly with a hostile takeover!