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The Finances of Slave Life Insurance: Did Life Insurers Act Appropriately from a Financial Perspective?

An important part of having slaves as a labor force is insuring their lives and their income. This paper explores whether antebellum life insurance companies insuring slaves did so appropriately and/or responsibly from a financial perspective. Determining whether antebellum life insurance companies did so is essential, as life insurance is a major segment of the economy of most countries and hence it is vital that life insurers perform well and are viable for the benefit of other industries and national economies, including with respect to the antebellum United States. This is the first study to investigate several critical financial elements, including premiums, expenses and mortality, of antebellum life insurance companies regarding feasibility. One characteristic of the results is that if firms employed a suitable expense assumption then the premium did not have a high enough mortality assumption and vice-versa. Additionally, most premium increases used regarding hazardous occupations, sum insured limits and location failed to adequately account for the associated increased mortality. The overall result is that, from a financial perspective, antebellum life insurers had trouble accounting for slave life insurance appropriately and/or responsibly.

Key words: Life Insurance, Slave, Antebellum, Financial Responsibility

1. Introduction

An important part of having slaves as a labor force is insuring their lives and their income. Therefore this paper will explore whether antebellum life insurance companies (LICs) insuring slaves did so appropriately and/or responsibly from a financial perspective. Doing so is necessary for LICs to behave conscientiously with respect to their policyholders and shareholders. Additionally determining whether antebellum LICs acted appropriately and/or responsibly is essential, as the role of

the financial sector in the economic development of any country is very significant, so an effective and productive insurance sector ultimately contributes to a nation's economic growth (Janjua & Akmal 22, Insurance Europe 8). In particular, the bankruptcy of an insurance company may have a disproportionately high negative effect for society as a whole when compared to bankruptcies in other industries and even within the financial services industry; compared to other institutions, the average insurer insolvency is three to five times more expensive (Holzmüller 56, Grace, Klein & Phillips 1, 22-23). The above demonstrates that it is vital that life insurers perform well and are viable for the benefit of other industries and national economies, including with respect to the antebellum United States.

This is the first study to investigate several critical financial elements of antebellum life insurance companies regarding feasibility. First and foremost among such elements is the reasonableness or adequacy of the premiums charged for slave life insurance. However, concerning the financial aspect of the pricing of slave life insurance, the only work that seems to have been undertaken is a listing of premiums as opposed to their suitability and adequacy.[1] Accordingly, this is the first research to look at antebellum life insurer premiums and evaluate whether they were sufficient to cover expenses and slave mortality. A key component of premiums is expenses. This is especially important for acquisition expenses such as the compensation of salespeople as briefly explained in Section 4; nevertheless nothing in any reading appears to have been accomplished considering these expenses. Similar to premiums, then, this article is the first to examine antebellum LIC expenses and assess, for instance, whether the premiums covered them satisfactorily. Another crucial element of premiums is mortality, thus this paper also probes whether mortality was properly accounted for by antebellum life enterprises.

An element of mortality is non-standard mortality, a case in point being when insureds are employed in hazardous occupations. Along with hazardous occupations are restrictions which include sum insured limits and location. As a result this work appraises whether the manner in which life insurance companies set and priced for 1) hazardous occupations and 2) such restrictions, made insuring the relevant slaves financially practicable. The final significant characteristic this study scrutinizes is the lack of experience antebellum life firms had vis-à-vis slave life insurance, by monitoring whether the changes made by insurers as they acquired greater experience allowed them to feasibly insure slaves.

Section 2 provides a review of the relevant literature and Section 3 describes the main features to be analyzed when trying to insure slaves realistically from a financial perspective. Section 4 inspects the adequacy of the expenses assumed by antebellum LICs, and Section 5 does likewise for both standard and non-standard mortality. Section 5 also exhibits what might have been viable premiums for antebellum life businesses to charge, and compares them to what actually were. Sections 6 and 7 look into restrictions and experience and Section 8 concludes with some suggestions for further research.

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[1]   Examples of such listings are Genovese 147; Murphy 633, 643; Savitt 163 and Ryder 23, 74, 75, 77, 99.

2. Literature Review

The existing scholarship regarding antebellum period life insurance consists of a great deal of how much was bought and how this amount grew. There has also been some work showing how many antebellum LICs existed and how their numbers increased.

The earliest writing seen is Savitt (1977) remarking that it was not until late in the antebellum period that life insurance became accepted (584). Zelizer (1979), exploring the overall history of United States life insurance in the 1840s, along with Goodheart (1990) investigating 1850-60 came to a similar deduction (Zelizer 1, 5; Goodheart 144). This thinking continued with Murphy (2010) estimating that life insurance in force increased dramatically from 1845 to 1860.[2]

As overall life insurance volume increased during the late 1840s and 1850s it did on slaves as well, as conveyed by Savitt (1977), who examined life insurance on slaves in North Carolina and Virginia (583-4, 585). Murphy (2010) probed the various traits of slave life insurance and the objectives for getting it as practiced by the antebellum insurance companies, and additionally Murphy (2005) noted that the increase of in force was such that by 1860 life insurance on slaves in urban areas was more common than on slave-state urban whites.[3]

As for the reasons of this augmentation Genovese (1960) completed some calculations with respect to slave insurance and medical costs and decided that a chief motive is that both were fundamental components of slaveholding profits (155). Other studies by Sowell (1975), Freehling (1990), Johnson (1999), Ashworth (2007) and Johnson (2013) cite that the increase was due to e.g. slavery being profitable, slaveholders having a huge investment in slaves, large slave price increases, insuring against runaways or suicide, utilizing slaves as life insurance itself, and a desire to decrease the risks inherent in the capitalist endeavor of slaveholding.[4]

Versus volumes of life insurance, considering life insurance companies, in total their numbers increased as life insurance gained in popularity. Both Savitt (1977) and Zelizer (1979) show that the number of companies swelled quickly between 1840 and 1860.[5] Murphy (2010) goes into detail of how the first life companies were established in the United States between 1809 and 1830 (4). This information is furthered by Zartman (1923), Zanjani (2007) and Murphy (2010) explaining how mutual life companies came to dominate the market by 1850, as the number of companies continued to increase considerably.[6]

Concerning individual companies, Chen & Simon (2004) scrutinized slave life insurance policy databases submitted to the California Department of Insurance and gives an instance of the increased insurance of slaves by the New York LIC of New York, NY while Murphy (2010) specifies how the Baltimore Life Insurance Company (BLIC) of Baltimore, MD grew to be the second biggest life institution in the United States partly by selling to slaveholders.[7]

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[2]   Murphy Chart: "Life Insurance in Force 1825-75" 5.
[3]   *Investing in Life* 7-8, "Securing Human Property" 618.
[4]   Sowell 14; Freehling 422; *Soul by Soul* 31, 33, 94; Ashworth 105; *River of Dark Dreams* 13.
[5]   Savitt 584, Zelizer 6.
[6]   Zartman 84-85, Zanjani 973, Murphy 167-175.
[7]   Clendenin 62 in Chen & Simon 348, Murphy 21, 184.

3. The Financial Elements of Feasibly Insuring Slaves

Life insurers had to take into account important elements, including financial, in order to insure slaves feasibly. As LICs started to increase writing slave life insurance they had to be careful regarding such elements, for example guarding against expense overruns (due to the nature of acquiring new business) or the possibility of having to subsidize slave life insurance business with money from other business lines. Hence the financial viability of antebellum insurers insuring slaves include matters of expenses such as administration, acquisition and overhead expenses, and charging sufficient and appropriate premiums.

Expenses are an extremely significant facet for the life industry to monitor; as alluded to in the Introduction, no author has inspected antebellum life insurance company expenses at all in any way. Consequently this is the first paper to explore whether they were accounted for correctly.

With respect to premiums, also as described in the Introduction, the only work that looks to have been performed is a listing of premiums as opposed to their suitability and adequacy. Consequently as aforementioned this research investigates antebellum life entity premiums and assesses, for example, whether they were enough to cover expenses and slave mortality. Related to premiums is mortality, as not accounting for it properly can bring a LIC down (Carr 17-7).

For suitably insuring slaves from a financial perspective, other aspects to consider are hazardous occupations and restrictions (e.g. as to sum insured limits and location) imposed by antebellum life firms. Similar to premiums, though, only a listing of cases imposed by life insurers has been found, hence this article appraises if it was possible for life insurance companies to have these restrictions so that life insurance on slaves was practicable financially and whether life enterprises did. The concept of experience shown prior is furthermore applicable because as LICs acquired greater experience insuring slaves they would make the necessary adjustments to the premiums, restrictions, etc. to help ensure financial viability.

4. Expenses as Accounted for by Antebellum Life Insurance Companies

Considering expenses in more detail, as commented on above they are one of the key items that insurers have to control and examine. However nothing in any reading seems to have been implemented vis-à-vis the expenses of antebellum LICs. Expenses are crucial for a life business to account for responsibly, as not doing so can bankrupt it which, as mentioned above, has the potential to be disastrous for a national economy. A recent example is American International Group of New York, NY, the financial difficulties and near bankruptcy of which played a central role in and helped lead to the "Global Financial Crisis" that began in 2008.[8]

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[8]   For more details see 1) Baranoff; 2) The Financial Crisis Inquiry Commission xvi, xix, xxv, 279, 347-50, 352; 3) Mishkin; 4) United States Department of the Treasury and the newspaper articles of 5) Andrews, de la Merced & Walsh, 6) Morgensen and 7) Stout & Knowlton.

To establish whether antebellum life insurance companies took into account expenses satisfactorily this study compares 1) those incurred by life insurers today to 2) those accounted for by the premiums antebellum LICs charged for (white) life insurance. For the former, 2015 data from domestic Canadian life institutions was used.[9] For the in force policies the companies represent 64% of total direct life insurance premiums written in Canada by domestic life insurers in 2015. For new business policies 99% of total direct life insurance premiums is embodied. Firms that only issue reinsurance were excluded (as none of the antebellum LICs looked into did so).

The categories from the 2015 data specified as a minimum value of expenses corresponding to those that the antebellum life industry would have incurred are rent, salaries and wages, miscellaneous expenses, and other general expenses. Two dollar amounts were calculated: one each for expenses attributed to in force and new business policies. The minimum per policy quantity for in force policies is $45.88, and the minimum per thousand dollar premium for new business policies is $198.25. The maximum of such expenses additionally includes employee's and agent's welfare, licenses and fees, and miscellaneous taxes, leading to values of $53.63 and $223.34 (see Table 1):

Table 1. Expenses Incurred by LICs Today

	In Force Policies	New Business Policies
	Per Policy	Per $000 Premium
Minimum	$45.88	$198.25
Maximum	$53.63	$223.34

Two methods are utilized in this article to compute the expenses covered by antebellum life institution premiums. The first starts with the (white) mortality utilized by the companies to determine the amount of the premium that covers the mortality of the insured.[10] The rest is assumed to cover the expenses (both administration and acquisition). Inflation is then applied to the latter values for five antebellum life concerns, which results in a per policy range of $10.69 to $47.88 (see Table 2).[11] Thus it looks obvious that antebellum life insurers did not account for expenses very well, even if allowing for calculation flexibility (especially with respect to newly issued policies). It may also be key to note that for this first method (as well as for the second method below) profit is not included in assessing the adequacy of the premiums.

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[9]   The 2015 Canada LIC data is from Office of the Superintendent of Financial Institutions.

[10]   See "Securing Human Property"17-21 for the white mortality used by antebellum insurance companies.

[11]   The antebellum companies (years) considered are BLIC (1850s), the New York Life Insurance & Trust Company of New York, NY (1830), New York Life & Trust (1832), companies incorporating Northampton mortality plus 1% (meaning adding 1% to the premium calculated from the Northampton Table (see below)), and companies using Northampton mortality plus 10%. The first three draw upon Carlisle mortality plus 35%. The premiums are from "Securing Human Property" 643, Ryder 23 and Murphy (2010) 304. The inflation is the average of 1) Federal Reserve Bank of Minneapolis and 2) Sahr values.

Table 2. Expenses Covered by Antebellum LICs (After Inflation)
Administration & Acquisition Expenses Together

First Method		Second Method
Chronological Order	Value	Results regarding Twenty-Three Cases
First	$36.30	Two Negative
Second	$30.02	One greater than $45.88
Third	$28.57	None greater than $53.63
Fourth	$47.88	
Fifth	$10.69	

The second method to evaluate how antebellum life entities accounted for expenses begins with assuming that slave mortality was a set proportion of the (then) standard Carlisle mortality table. Scrutinizing work executed by several authors, as seen in Section 5, one can deduce that it is reasonable to assume that slave mortality was about 1.75 times that of whites. From this starting point the expenses, including inflation, are measured as ranging from less than zero (for two instances) to $48.47. It is also essential to observe that only one of the twenty-three cases is greater than the minimum value attributed to current LICs of $45.88, and none are greater than the corresponding maximum of $53.63 (see Table 2).[12] Utilizing a higher assumed slave mortality rate, as might have easily been done due to the reasons shown in Section 5, would lead to even lower assumed expense values. Therefore once again it seems apparent that antebellum life insurance companies failed to account for expenses very well, even if allowing for calculation flexibility.

It is worthwhile to remark that a relevant attribute when examining data is whether the size of the dataset is large enough to be credible. In 2016, of the sixty-nine biggest life insurance groups (by assets) fifty-one sold life insurance in Virginia.[13] Accordingly, exploiting sixteen antebellum firms as for the second approach

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[12]   The antebellum companies (years) considered are one-year term policies for BLIC (1850s), National Safety Life Insurance & Trust of Philadelphia, PA (1850s), an unnamed New Orleans company (1850s), the North Carolina Mutual LIC of Raleigh, NC (1849, 1851, 1852), the Richmond Fire Association of Richmond, VA (1850s), the Virginia LIC of Richmond, VA (1850s), a premium quote for a Louisiana slave (1850s?), a general estimate of minimum and maximum premium rates (1850s or 1860?), a premium quote for North Carolina slaves (1854), Richmond Fire (1850s) (using a second set of premiums), Mutual Benefit Life & Fire of Louisiana of New Orleans, LA (1850s), the Phoenix LIC of Saint Louis, MO (1850s), Mutual Benefit of Louisiana (1851), Mutual Benefit Life of New Jersey of New York, NY and Newark, NJ (late 1840s and early 1850s), the Charter Oak LIC of Hartford, CT (1856), the Franklin Slaughter insurance brokerage of Fredricksburg, VA (1849), the Aetna Life Insurance Company of Hartford, CT (1854-57) and the United States Life Insurance Company of New York, NY (1852). The sources for the premiums are "Securing Human Property" 643; "Correction: 'Slave Life Insurance" 163; Genovese 146, 147; "Slave Life Insurance" 591; Ryder 74, 75, 77, 99 and California Department of Insurance.

[13]   Largest groups from National Association of Insurance Commissioners 129-185 and The Statistics Portal. They are those with greater than $10 billion in assets in 2016.

illustrated here looks reasonable and representative.[14] Moreover, as the results of the second procedure closely match the first, it seems that those of each are valid.

The foregoing takes the expenses as accounted for by the antebellum insurers as administration and acquisition together. It is also essential to consider acquisition expenses separately, as they are generally thought of as one of the most important financial elements of a life insurance policy.[15] When splitting the two (see Table 3), allowing for the acquisition expenses being $198 per thousand dollars of premium, for the first process (after inflation) the outcome is a per policy range for administration expenses of $2.84 to $32.66.

Table 3. Expenses Covered by Antebellum LICs (After Inflation)
Administration & Acquisition Expenses Separate
(Acquisition Expenses set to $198 per $000 Premium)

Administration Expenses		
First Method		**Second Method**
Chronological Order	Value	Results regarding Twenty-Six Cases
First	$20.68	Ten Negative
Second	$15.56	None greater than $45.88
Third	$17.34	None greater than $53.63
Fourth	$32.66	
Fifth	$2.84	

For the second technique above the administration expenses, including inflation, are determined as ranging from less than zero (for ten examples) to $32.26, meaning that none of the twenty-six cases are greater than even the minimum value attributed to current LICs of $45.88.[16] Consequently, even for this second approach it looks evident that antebellum LICs were not accounting for expenses very well, even if allowing for calculation flexibility. The overall conclusion is that whatever the method, even if allowing for flexibility e.g. using minimum expense attribution, antebellum life enterprises did not account for expenses very well (particularly when regarding new policies).

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[14]   The sixteen are BLIC, National Safety Life, an unnamed New Orleans company, North Carolina Mutual, Richmond Fire, the Virginia LIC, a company giving the premium quote for a Louisiana slave (1850s?), a company giving the general estimate of minimum and maximum premium rates (1850s or 1860?), a company giving the premium quote for North Carolina slaves (1854), Mutual Benefit Life & Fire, the Phoenix LIC, Mutual Benefit of Louisiana, Mutual Benefit Life of New Jersey, Charter Oak, Franklin Slaughter, Aetna Life and United States Life. There are more than sixteen expenses computed for the second method as there are more than one for some companies.

[15]   This is because acquisition expenses vastly outstrip first year premiums and so must be made up over the first few years of the policy.

[16]   The twenty-six cases include the five-year term policies of North Carolina Mutual of 1849, 1851 and 1852.

5. Mortality as Accounted for by Antebellum Life Insurance Companies

Mortality is obviously another major component to investigate when setting premiums, leading to questions concerning whether life institutions should have known whether it was financially feasible to insure slaves. Such questions include what was known by life businesses about both slave and non-slave antebellum United States mortality, and what they should have known about it.

The choices of non-slave mortality tables for antebellum LICs was limited. Companies drew upon the 1783 Northampton Table at first, and by 1835 most were incorporating the 1815 Carlisle Table. A reason for this change was that the premiums from the latter were lower, which accordingly enabled firms to increase their market share (*Investing in Life* 20-21). One more reason could have been that the Carlisle Table was built utilizing a better procedure than was the Northampton Table.[17] A different possible mortality table to employ may have been the 1789 Wigglesworth Table, which was based on United States mortality but only covered Massachusetts (with Maine) and New Hampshire so it was probably not applicable to the entire nation. Other potential tables would have been the English Life Tables of either 1841 or 1838-44, although these have values that fluctuate quite widely versus the Carlisle Table, which would tend to lessen their credibility, and the 1838-44 table was not published until 1853.[18] Aside from the aforesaid fluctuations, in general changing mortality would change premiums, reserves, etc. substantially, and so life insurance companies infrequently adjust mortality assumptions anyway.

The preceding discussion indicates that it was logical and easiest for antebellum life insurers to base non-slave mortality on the Carlisle Table. Therefore the same is true for the slave mortality used by said insurers, hence it would have behooved them to undertake some work to decide on appropriate mortality assumptions (based on the Carlisle Table) to specify. Probing what should have been the assumed slave mortality, the best source seems to be Eblen, who quantifies a slave (mortality) life table for both genders for the decades of 1840-50 and 1850-60 (307-08).[19] Appraisals of slave mortality values from these tables exhibit that antebellum life entities should have assumed mortality of at least 1.75 times that of the Carlisle Table.[20]

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[17]   Society of Actuaries *The Northampton Table*.

[18]   Society of Actuaries *ELT No. 2 (1838-44) – Male; ELT No. 2 (1838-44) – Female*.

[19]   Other slave mortality looked at are the tables of Evans, Jr. and that of Nott 278. However Evans, Jr. only draws upon data for one year and Vinovskis (1975) declares that this table probably underestimates slave mortality; and Nott comparing 1840-45 white to African mortality for Charleston, SC, has ratios fluctuating widely by year.

[20]   Other white mortality tables perused for a potential comparison base are that of Jacobson; that of Jaffe & Lourie, Jr.; the Wigglesworth 1789 Table as found in Vinovskis (1971); those of Haines; those of Hacker; the American Experience Table (published in 1868) from the Society of Actuaries; and the American Life Table 1830-1860 from Meech *2, *224. However Jacobson measures white mortality for one year only and Vinovskis (1978) cites major flaws with this table; Jaffe & Lourie appraises white mortality for 1830 only and Vinovskis (1972) explains its deficiencies; the Wigglesworth Table is only for a limited area and Vinovskis

Now, although Eblen exploits modern techniques (such as that of the United Nations and smoothing) the reading uses actual census data. Thus clearly antebellum LICs should and could have executed some true research here and been able to come up with the 1.75 times the Carlisle Table that arises when inspecting Eblen, or at least something close to it, for slave mortality. One evident shortcoming here is that there was little data available concerning slave mortality, especially for the required parameters of age, occupation and location (Eblen 302-04). Additionally there is a necessity of a large number of insureds for such data to be suitable and truly applicable (Carr 17-8, ("Securing Human Property" 621, Nott 275). Both of these oblige some caution when evaluating the mortality to employ; accordingly the 1.75 ratio could easily be increased to 1.80 or 1.85.

The idea of a higher such ratio being fitting is reinforced by the fact that mortality escalated by a substantial amount in the mid-nineteenth century (Hacker). Furthermore Kunze (1979), Fogel (1986) and Pope (1992), among others, all concluded that life expectancies in the United States declined in the first half of the nineteenth century.[21] So in the interest of conservatism assuming a higher slave to white mortality, such as 1.80 or 1.85 is easily justifiable as reasonable.

5.1. Standard Lives and Occupations

After establishing the assumed mortality assumption a life insurance company will first look at standard lives. For slaves this will also encompass standard occupations. To establish if antebellum life insurance companies analyzed slave mortality for standard lives and occupations adequately, the expenses (as administration and acquisition together) as computed using the first method described in Section 4 were utilized. This method draws upon sixteen firms in the data set and so appears suitable, as aforesaid. The slave mortality as assessed to be assumed by antebellum life businesses differs depending upon which of the five determined expenses are incorporated.

Starting with the earliest of the five administration expense values, the slave mortality calculated was between 0.24 and 2.39 times the Carlisle Table, but nineteen of these twenty-four ratios are less than 1.75, twenty-one are less than 1.85, and two are actually negative.[22] The two negative ratios are both of the seventeen averages of

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(1971) says it has major hitches; the Haines Tables show considerable fluctuation against the Carlisle Table and Hacker elucidates the problems with the former chiefly that they determine mortality for one year only; Haines & Avery comment that the Meech Table has shortcomings principally in that it assumes the U.S. population was closed and some other assumption and calculation difficulties; and the Hacker Tables, the American Experience Table of 1868, the English Life Tables and the American Life Table 1830-1860 all fluctuate quite widely versus the Carlisle Table.

[21]   Kunze Chapter 4, "Nutrition and the Decline" 465, Pope 281-82.

[22]   The ratios are calculated from one-year term averages for specific issue ages for BLIC (1850s), National Safety (1850s), North Carolina Mutual (1849), Richmond Fire (1850s), Virginia Life (1850s), an unnamed New Orleans company (1850s), North Carolina Mutual (1851, 1852), Richmond Fire (1850s) (using a second set of premiums), Phoenix Life (1850s), Charter Oak (1856), the Franklin Slaughter brokerage (1849), Mutual Benefit of Louisiana (1851) and Aetna (1854-57); plus a premium quote for a Louisiana slave (1850s?) aged 25; a general

issue ages evaluated, and another five of these averages have at least one negative individual quantity. Therefore the mortality assumed for slaves appears insufficient but, as seen below, a further element here is that for their own protection antebellum LICs specified limits on the amount for which slaves were insured (see Section 6). For a one-year policy, limiting the sum insured to a typical two-thirds of the slave's worth is the equivalent of increasing the assumed mortality of the slave by 50%.[23] This increases the mortality assumed to between 0.37 and 3.59 times the Carlisle Table; even so, including the two negative ratios, sixteen of the twenty-four ratios are still less than both 1.75 and 1.85 (see Table 4). Hence from the first calculated administration expenses, even when accounting for sum insured limits, the mortality assumed for slaves looks inadequate.

Table 4. Slave Mortality Assumed by Antebellum LICs
After Accounting for 2/3 Sum Insured Limit Calculated
Using Total Administration & Acquisition Expenses Together
As Calculated Using the First Method Above

Expenses Used	Results regarding Twenty-Four Cases
Chronological Order	(Versus 1.75 and 1.85 times Carlisle mortality)
First	Two Negative
(Value = $36.30)	Sixteen less than 1.75 times Carlisle
	Sixteen less than 1.85 times Carlisle
Second & Third	
(Values = $30.02	Twelve less than 1.75 times Carlisle
& $28.57)	Twelve less than 1.83 times Carlisle
Fourth	Five Negative
(Value = $47.88)	Seventeen less than 1.75 times Carlisle
	Nineteen less than 1.85 times Carlisle
Fifth	Two less than 1.75 times Carlisle
(Value = $10.69)	Three less than 1.85 times Carlisle

The next two chronological expenses (near each other and both somewhat lower than the first) lead to a slave mortality of between 0.04 and 2.80 times the Carlisle Table with seventeen of these twenty-four ratios being less than both 1.75 and 1.85. Here using a two-thirds limit on the sum insured increases the mortality assumed to between 0.06 and 4.19 times the Carlisle Table, with twelve of the twenty-four

estimate of minimum and maximum premium rates for a slave aged 25 (1850s or 1860?); an estimate of a maximum premium rate for a slave aged 35 (1850s or 1860?); a premium quote for North Carolina slaves aged 22 (1854); the premium for slaves aged 30 for Mutual Benefit of New Jersey (late 1840s and early 1850s); the premium for slaves aged 25 for United States Life (1852); along with five-year term averages for issue ages 10, 20, …, 60 for North Carolina Mutual (1849, 1851, 1852).

[23] For the five-year term policies the increase is very close to, but not exactly, 50%.

ratios less than both 1.75 and 1.83. This is an improvement on the mortality coming from the first expenses quantified chronologically, nonetheless it still seems unsatisfactory.

For the fourth chronological expense value, which was the highest directly calculated per policy expense of $47.88, only one of the twenty-four computed mortality rates is greater than 1.75 times the Carlisle Table, none are greater than 1.85, and five are negative.[24] Similar to the earliest expense value, three of the negative ratios are from the seventeen averages of specific ages determined and nine of the other averages have at least one negative individual quantity. A two-thirds limit on the sum insured increases the mortality to only seven of the mortality values being more than 1.75 times the Carlisle Table and only five more than 1.85 times. This indicates that if an antebellum life institution assumed sufficient expenses it was not applying a high enough mortality for its slave life insurance.

The last chronological expense value resulted in thirteen of the twenty-four slave mortality quantities being greater than 1.75 times the Carlisle Table and twelve being more than 1.85. With the two-thirds sum insured all but two (three) of the slave mortality rates become more than 1.75 (1.85). However this expenses value is the lowest of the five assessed, which tends to confirm that antebellum life enterprises assumed either adequate expenses or mortality, but not both, when assessing the premium for insuring slaves.

5.2. Feasible Standard Premiums

After exploring expenses and slave mortality it is possible to investigate the premiums that antebellum life insurance companies should have charged for standard lives. As conveyed previously, a slave mortality rate of 1.75 times that of the Carlisle Table looks realistic to assume although due to the overall lack of data there should have been higher mortality. Additionally as aforementioned the fact that mortality seemed to be increasing during the first half of the nineteenth century indicates that assuming a slave mortality of a minimum of 1.85 times that of the Carlisle Table appears judicious. As well, the largest present-day administration expense assumption calculated in Section 4 is $47.88 assuming $50 appears reasonable. Likewise, the minimum per thousand dollar premium for new business policies as quantified prior is $198.25, assuming $200 looks representative.

When comparing the premiums determined utilizing the foregoing assumptions to the premiums actually charged for slave life insurance by the antebellum insurers, the latter seem highly unacceptable. For four of the five cases that are an average of at least ten individual computed premiums the feasible premium is greater than 2.38 times that actually charged. Moreover, as shown in Table 5, for ten of the fourteen instances that are an average of at least five individual assessed premiums the viable premium is larger than 1.91 times that actually charged, with thirteen being more than 1.68.

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[24]   In addition ten of the seventeen averages have at least one negative individual value.

Table 5. Ratio of Feasible Premiums to Premiums Charged by Antebellum LICs

Assumptions			
(Admin Expenses/Acquisition Exps /Mortality Ratio to Carlisle)	$50/$200 /1.85	$55/$225 /1.85	$40/$150 /1.65
Results for:			
(Ratio feasible prms to prms charged)			
Five Cases that are Average of at least ten individual premiums	Four cases: At least 2.38[a]	Four cases: At least 2.58[b]	Four cases: At least 1.90[c]
Fourteen Cases that are Average of at least five individual premiums	Ten cases: At least 1.91	Twelve cases: At least 2.00	Seven cases: At least 1.83
	Thirteen cases: At least 1.68		Thirteen cases: At least 1.34

Notes:
a: The maximum value is 2.65.
b: The maximum value is 2.87.
c: The maximum value is 2.11.

As opposed to the minimum feasible assumptions of above, antebellum life insurance companies could have used maximum assumptions. As seen in Section 4, from the 2015 data the maximum per policy administration expenses calculated is $53.63 and the maximum per thousand dollar premium for new business policies is $223.34, so the corresponding assumptions could have been $55 and $225. The ensuing result is that for four of the five cases that are an average of at least ten individual computed premiums the feasible premium is greater than 2.58 times that actually charged. Moreover, for twelve of the fourteen instances that are an average of at least five individual assessed premiums the viable premium is larger than twice that actually charged.

Even when drawing upon less conservative than the preceding assumptions of mortality at 1.65 times the Carlisle Table, $40 per policy for administration expenses and $150 per thousand dollar premium for new business policies, for seven of the fourteen examples that are an average of at least five individual calculated premiums the realistic premium is greater than 1.83 times that actually charged. Furthermore, for thirteen of said fourteen the accurate premium is larger than 1.34 that charged. This last comparison emphasizes the fact that antebellum LICs did not charge sufficient premiums and thus were not behaving conscientiously with respect to either their policyholders or shareholders considering insuring slaves.

5.3 Hazardous Occupations

The foregoing treatment of mortality scrutinizes standard lives. Fundamental in life insurance for the determination of premiums is the treatment of non-standard lives. For slave life insurance, employment in a hazardous occupation is the most important occurrence leading to the emergence of a non-standard life. Most life concerns charged standard premiums only for slaves working in houses owned by

the slaveholders (Ryder 66, 78). This makes it appear that antebellum life insurance companies were at least trying to act responsibly as to slaves exploited in hazardous occupations.

To implement this attempt, some hazardous occupations were excluded for life insurance by some insurers. For instance both the BLIC and the James River Insurance Company of Howardsville, VA declined insurance for slaves involved in blasting for railroad work, the Phoenix LIC of Saint Louis, MO disallowed insurance for slaves employed on boats (without permission) and the Nautilus (Mutual Life) Insurance Company of New York, NY banned insured slaves from entering into the military or the navy (Ryder 83, 84; California Department of Insurance 48). This exclusion of some occupations reinforces the idea that antebellum life establishments had some sense of insuring the lives of slaves properly regarding hazardous occupations.

Even so, any increase in premiums charged by insurers for slaves used in hazardous occupations looked to be unsatisfactory. Currently life entities increase premiums by up to 20% to account for hazardous occupations. However, in the antebellum period such increases were much smaller for slave life insurance. Cases in point include BLIC adding 5% to premiums for slaves in mining occupations in 1840 (Ryder 82) and the Franklin Slaughter agency of Fredricksburg, VA with a 1% premium increase for occupations in coal pits, steamboats and fishing boats, a 1.5% increase for those in mining and a 2% increase for engineers and firemen in 1849 ("Securing Human Property" 633, "Slave Life Insurance" 592). Around 1852 the Lynchburg Hose & Fire Insurance Company of Lynchburg, VA increased premiums by 1% for slaves employed as carpenters, house joiners, stone masons and similar occupations. Later in the 1850s both United States Insurance, Annuity & Trust of Philadelphia, PA and the Charter Oak LIC of Hartford, CT added 4% for slaves employed as "Deckhands, Firemen &c. on Steamboats or Engineers" and 2 to 2.5% for steamboat maids and waiters (Ryder 80).

Where it was done, however, adding these small amounts to premiums seems to be inadequate. For instance increasing premiums by 2% means that the insurance company is assuming a 2.5% to 3% increase in slave mortality for the relevant occupations. However in Florida, e.g., the most prevalent sort of accidents brought to the courts in the antebellum period were those of hired slaves (Hunt 135, 139). In North Carolina there were also many examples due to industrial accidents involving slaves (Schiller 1236). Furthermore there were specific occurrences involving large numbers of slaves. Cases include mine explosions killing greater than forty workers, mostly slaves, near Richmond, VA and most of the slaves used in a mine in March, 1855 (Ryder 82n181, 83). Hence it looks as if the small increases in assumed mortality that came from adding the small percentages seen above to the premium could easily be perceived as unsuitable, as the actual mortality of slaves in hazardous occupations was not truly covered.

Another manner with which to account for hazardous slave occupations was to add a constant dollar amount to the premium. For example in the late 1830s BLIC added $1 for slaves utilized on steamboats and $3 for those working in Richmond coal mines ("Securing Human Property" 623). Such increases meant that the company was assuming a more than doubling of slave mortality for the relevant occupations. This is larger than five times the increase of that when applying a 20% increase

in premium which is essentially the maximum charged by life insurers today. Accordingly it may have been an overcompensation and while it may have been responsible, said increases may have cut a firm out of the market.

6. Restrictions

An additional way for antebellum insurance LICs to protect themselves was to put restrictions on how they were willing to insure slaves. The most common restrictions concerned sum insured limits and location. As to sum insured limits, during the late 1840s and the 1850s BLIC; the Richmond Fire Association of Richmond, VA; the North Carolina Mutual Life Insurance Company of Raleigh, NC; the Asheville Mutual Insurance Company of Asheville, NC; Lynchburg Hose and Fire; and the Greensborough Mutual Life Insurance and Trust Company of Greensboro, NC all limited the amount for which a slave could be insured. Moreover, no business in Virginia or North Carolina covered a slave for full value. The usual maximum was two-thirds or three-quarters of the value as stated on the application but, as demonstrated in Section 5.1, these limits did not sufficiently account for the mortality of insured slaves ("Securing Human Property" 638, 647; Ryder 67; ("Slave Life Insurance" 587-88).

One more principal restriction came from firms deciding that the location of slaves, including their being moved from one place to another, was a determinant of their insurability. This was justified as, e.g., the mortality of plantation slaves varied with the main crop, a prime case being the differences associated with sugar as evidenced by the mortality rate in Jamaica being 50% higher in the sugar cane plantations than in the coffee plantations (Santos & Guedes 8*n*25). In the United States the mortality rate of slaves was higher in rice than in the cotton plantations (Tadman). A further key reason for the increases was increased climate risks ("Slave Life Insurance" 591, Ryder 76).

Examples of location restrictions include life institutions based in Virginia and North Carolina limiting slaves to specific states or regions ("Slave Life Insurance" 590). As well some policies stipulated that the covered slave was not allowed to "go to any locality South of the State, in which he or she now lives" without permission from the insurer ("Slave Life Insurance" 591), some policies of the Aetna Life Insurance Company of Hartford, CT banned insured slaves from going south of 35 degrees north between July 15 and November 15, some policies of the United States Life Insurance Company of New York, NY necessitated insured slaves to stay in specified states, and some policies of Nautilus (Mutual Life) did not tolerate insured slaves going outside the United States (except to Canada) or going south of Virginia or Kentucky between July 1 and November 1.[25]

Other instances vis-à-vis location restrictions involve premium increases such as 1) one from the late 1840s and early 1850s which saw Mutual Benefit of New Jersey of New York, NY and Newark, NJ charge a premium of $1.57 per $100 sum insured for a thirty-year old in Virginia with an increase to $2.81 for the same in New Orleans (Ryder 75) and 2) one from 1854 where a one-year term policy for $1000 was priced at $16 in North Carolina and $35 in New Orleans for a twenty-two-year old

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[25]   California Department of Insurance 3, 7, 11, 15, 20, 25, 29, 31, 33, 35, 41, 48.

("Slave Life Insurance" 591). The effects were an increase in the mortality assumption of over three times and two-and-a-half times, respectively. Mutual Benefit Life & Fire of Louisiana of New Orleans, LA charged even higher premiums for slaves in New Orleans (Ryder 74). These premium increases look like they satisfactorily account for any likely increase in slave mortality; even so they might have priced the entity out of contention with respect to acquiring new business.

More illustrations from the 1850s were BLIC increasing premiums by ½ to 1% for any slave insured south of Virginia or Kentucky (Ryder 76), North Carolina Mutual allowing one slaveholder to move slaves from North Carolina to Florida only upon payment of 1% added premium and insisting on a ½% premium increase for a different slaveholder to move a slave to Alabama ("Slave Life Insurance" 591), and Charter Oak adding ½% to the premium for unacclimated slaves insured in Kentucky, Missouri and Tennessee (Ryder 77-78). As observed in Section 5.3 these percentage increases only equated to a small increase in assumed mortality. So, as for hazardous occupations, percentage increases in premium for location do not seem to truly account for any realistic increases in expected mortality of slaves.

Other examples of restrictions included 1) medical examinations where insurers had it be mandatory that a doctor confirm the good health of the insured with some companies needing an endorsement from both a company and a family physician ("Slave Life Insurance" 588), 2) a preclusion from insuring a slave with more than one company which protects insurers from attempts by slaveholders at getting a windfall, (California Department of Insurance 41, Ryder 69-70) and 3) several insurers having an exclusion for suicide; death from a mob, invasion, or insurrection; military service; or death at the hand of justice or "duels."[26]

7. Experience

To be able to write life insurance responsibly and take into account hazardous occupations, location. etc. properly it is necessary for an insurance company to have experience. However there are clear indications that life businesses had a lack of experience in some facets of slave life insurance. One case saw BLIC at first being willing to insure slaves employed in coal mines although with only a 1% or 1.5% increase in premium, whereas insurers nowadays might use increases up to 20%. Later the firm decided against issuing such insurance due to several coal pit explosions in the mid-1850s ("Securing Human Property" 630, 646; Ryder 82). Similarly the Girard Life Insurance and Trust Company of Philadelphia, PA briefly insured slaves working on steamboats, although less than one month later they stopped (Ryder 83-84), and a New York company stopped writing slave life insurance altogether after only two years of doing so ("Slave Life Insurance" 591).

As opposed to stopping issuance, a disparate outcome of life ventures acquiring greater experience in insuring slaves was adjusting premiums. One example here which exhibits that life enterprises were only beginning to learn the slave life insurance market is displayed in one-year term premiums of North Carolina Mutual which were increased in 1851 from the 1849 rates and then again in 1852 by an overall

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[26] California Department of Insurance 3, 7, 11, 15, 20, 25, 29, 31, 33, 35, 41, 48; Ryder 85.

amount of approximately 16% each time. Similarly the firm increased its five-year term premiums in 1851 and 1852 by about 17% on each occasion ("Correction: 'Slave Life Insurance" 163). What these premium increases represented was an increase in their assumed slave mortality by about 35% when repricing their one-year term slave policies and by about 50% when repricing their five-year term policies. For the one-year term repricing the result was an increase in the assumed slave mortality from being less to more than 1.75 times the Carlisle Table for two of the five computed administration expenses (using the first method in Section 4). For the five-year term repricing the corresponding increase was from being less to more than 1.75 times the Carlisle Table for one of the five computed administration expenses, so the result from gains in experience did lead to a desirable effect in some cases.

A further demonstrative instance was the New York Life Insurance & Trust Company of New York, NY increasing its (white) one-year term policy premiums by about 70% from 1830 to 1832 (Ryder 23, *Investing in Life* 304). Even so the outcome was inadequate as the expense assumption moved from $28.57 to $47.87 when considering administration and acquisition expenses together, but when taking administration expenses alone the increase was only to $32.66. Thus the former was only barely enough when compared to the 2015 data value minimum of $45.88 and the latter was clearly not sufficient.

The changes exampled above show that as antebellum life institutions learned slave life insurance they realized they had to adapt their methods in some respects to be able to write appropriately. Not making such alterations could have (and no doubt would have) been dangerous to entity survival. So, even though some of the modifications did not appear adequate, in this sense antebellum LICs did illustrate some degree of responsibility to both policyholders and shareholders in addition to not bringing harm to the economy at large.

8. Conclusions and Further Research

The key conclusion of this paper is that antebellum life insurers seemed to have trouble accounting for the mandatory financial characteristics of slave life insurance. Investigating expenses, when scrutinizing the four combinations of 1) the two approaches incorporated in this paper along with 2) separating acquisition expenses out or not; obviously the antebellum life industry was unsuccessful in accounting for expenses well. This is especially true given that that (required) company profit is excluded from the calculations and that the modern comparisons values of the minimum possible expense values result in this deduction.

For another crucial financial feature, assumed slave mortality, the overall conclusion is that antebellum LICs were not accounting for it conscientiously. If firms employed a suitable expense assumption then the premium did not have a high enough mortality assumption. The only instances where the assumed slave mortality was adequate were those without a sufficient expense assumption. Therefore the antebellum life institutions assumed either satisfactory expenses or mortality, but not both, when determining the premiums for insuring slaves.

The two preceding components not being accounted for properly is particularly evident when analyzing the feasible premiums that should have been charged.

These were up to 2.58 and at least 1.34 (the latter for the most liberal assumptions) times those that actually were charged.

For the element of slave life insurance of hazardous occupations there was some appropriate and diligent action taken by the life insurers with the exclusion of some occupations and deeming standard occupations only as slaves working in houses owned by the slaveholders. Nevertheless, for the most part, any increases in premiums utilized when insuring slaves exploited in hazardous occupations seems unsuitable, as they failed to adequately account for the increased mortality. Looking into sum insured limits and location again for the most part what was tried was unsatisfactory as it did not sufficiently account for the increased mortality. The cases seen where premium increases seem adequate may have priced a company out of the market and consequently were of little use.

It is worthwhile to note that regarding expenses, the values calculated as being assumed by antebellum LICs are far enough away from expenses as incurred today to be able to say that the shortfall cannot be due to any sort of error or statistical or yearly fluctuation. This is true for all four combinations used in this paper, especially when separating the administration and acquisition expenses, which is closest to reality. Here using the first method results in assumed administration expenses being calculated as ranging from 6% to 71% of the minimum seemingly necessary (see Tables 1 and 3).[27] Also, using Canadian data as opposed to United States data does not explain said shortfall, as the two nations have similar life insurance industries in almost all aspects. Regarding mortality, the only instance where the assumed slave mortality seems adequate is that with such a very low expense assumption as to be nonsensical (see Table 4). Hence, as for expenses, the inadequacy determined cannot be because of any sort of error; statistical or yearly fluctuation; or the use of Canadian data. Finally the calculated insufficiency of the actual premiums does not arise from any sort of error; statistical or yearly fluctuation; or the use of Canadian data as, even with the most generous assumptions, the vast majority of the actual premiums[28] range between 47% and 74% of those seemingly necessary (see Table 5).

Regarding experience as to insuring slaves the conclusion is that it is apparent that at first antebellum LICs had little. This is shown by subsequent actions such as repricing and ending coverage; while some of the adjustments do not look adequate, they at least demonstrated some amount of an attempt to avoid financial difficulties concerning their slave life insurance lines of business.

This article has explored some of the financial attributes that are key to the good performance of life insurance companies with respect to slave life insurance. There are any number of other such characteristics that can be investigated. One of the most fundamental is the assets in which insurers invest. Premiums paid for slave life insurance are used to buy assets which must provide enough income to cover a substantial proportion of the corresponding financial needs of insurance companies. Otherwise the slave life insurance line of business may wind up in financial difficulty and have to be subsidized by other company lines of business. Other elements important to the financial well-being of LICs include dividends, reserves and reinsurance. The former would seem to be especially so because, as related above, mutual companies came to

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[27]   The range is 5% to 61% for the maximum such expenses.
[28]   As calculated as an average of at least five individual premiums.

dominate the life insurance industry in the antebellum United States. Another facet to inspect could be how the premiums charged for slave life insurance were arrived at, e.g. did life insurers do any real calculations. All of the aspects regarding slave life insurance can also be investigated regarding any health insurance or disability insurance that was or could have been made available for slaves.

It is critical that life insurers perform well and remain sustainable; important as doing so is necessary for conscientious behavior with respect to either their policyholders and shareholders. Performing well and remaining sustainable is also critical, as life insurers are a significant segment of the economy of most countries and a bankruptcy can seriously damage a national economy. Clearly the antebellum life companies were not insuring slaves responsibly, and accordingly had the potential of greatly impairing the national economy of the antebellum United States.

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