Journal of Construction Education
Spring 1997, Vol. 2, No. 1, pp. 54-65

1522-8150/97/$3.00/General Manuscript

Predictability of Adjudicated Liquidated Damage Clauses in Construction Contracts

Donald A. Jensen, Jr.
Southern College of Technology
Marietta, Georgia

James W. Craig, Jr.
Texas A&M University
College Station, Texas

John D. Murphy, Jr.
Colorado State University
Fort Collins, Colorado

This article addresses the issue of whether courts in the United States demonstrate a trend in application preference for the intent test when ascertaining the validity of a liquidated damages clause in a construction contract. Judicial opinions, dating from 1853 to 1991, formed the population of study. Retrieval of archived judicial opinions are from official and unofficial legal reporters for the United States. Of the 223 selected appellate court cases, 175 met the population parameters. Data derived from these judicial opinions were statistically tested by: (a) the chi-square test statistic for a binomial one-way dimensional classification, and (b) the Stuart-Cox sign test for trend analysis of discrete data. Results of the chi-square test reveal that courts demonstrate a preferred pattern of movement away from applying the intent test when construing the validity of a liquidated damages clause. Based on the Stuart-Cox sign test, however, the current pattern of judicial application preference does not display the presence of a statistical trend for future application preference. Although the current application preference of the courts is in the direction *do not apply* the intent test to determine the validity of a liquidated damages clause, there is no presence of a statistical trend that would allow one to conclude that this is the preferred application of the judiciary in the future.

Key Words: Contracts, Liquidated Damages Clause, Penalty Clause, Non-excusable Delay

Purpose

The purpose of this article is to present the results of a study by Donald A. Jensen that investigated adjudicated court decisions in the United States that had at issue the legal validity of a liquidated damages clause incorporated in a construction contract between an owner and contractor. The original study sought to answer the question: whether courts of the United States demonstrate an application preference for the intent test when ascertaining the legal validity of a liquidated damages clause, and whether such preference, or lack of preference, displays a trend for future application. To this end, all published common law judicial opinions for construction contracts (from 1853 through to 1991) that questioned the validity of a liquidated damages provision between the owner and contractor were reviewed. In all judicial opinions, the linearity of contractual privity was between the owner and prime contractor. Two hundred and twenty-three (223) judicial opinions were retrieved from official and unofficial legal reporters for the United States. Of the 223 appellate court cases, 48 court cases were deleted from the study for noncompliance with the population parameters.

The analytical model for the research design was a non-experimental correlational study of historical data. The methodology employed was content analysis utilizing the statistical techniques utilized of: (a) the chi-square test statistic for a binomial one-way dimensional classification test, and (b) the Stuart-Cox sign test for trend analysis for a discrete nominal data set.

Introduction

The typical contract for a nonresidential construction project will contain a *liquidated damages clause* (Ward, 1985). In this application, the liquidated damages clause represents an attempt by the owner to preconfigure monetary damages in advance of a pre-defined breach (American Jurisprudence, 13, 1964; Restatement, Second, 1981). The pre-defined breach is the required contract time necessitated beyond the date of substantial completion that the contractor takes to complete construction. This additional time period is legally referred to as a *nonexcusable delay* (Arditi & Partel, 1989). By definition, a nonexcusable delay provides the owner with an opportunity to claim damages for that period of time in which it is unable to utilize the contracted for structure for its intended purposes (Jervis and Levin, 1988). Since this extended unexcusable time period precludes the owner from use of the structure, it is presupposed that the liquidated damages represents, monetarily, any actual inconvenience, lost production, lost rent, or lost profit suffered by the owner that results there from in the form of consequential damages (American Jurisprudence, 22, 1964; Cushman, 1990; Simon, 1989).

In order for a liquidated damages clause to be legally operable at law, the stipulated damages amount must be in accordance with the basilar principles of compensable damages (Restatement, Second, 1981). On this basis, the liquidated damages amount must be in agreement with the paradigmatic theory of compensable damages, and represent a reasonable approximation of damages that place the nonbreaching party in the same position had a breach not transpired. Thus, neither the intent, nor the purpose of a liquidated damages clause should be to exact contractual compulsion on the breaching party so as to promote continuance in contract performance. Moreover, should the court construe a liquidated damages clause in this manner, and then the clause is defined as a penalty provision and, hence ruled legally nugatory (Dunbar, 1959; McCormick, 1935).

A penalty clause, by definition, is a monetary sum inserted in a contract, not as a measure of approximating financial compensations for a pre-defined breach, but rather functions as financial castigation for noncontractual performance (American Jurisprudence, 13, 1964). The ideology of financial punishment has been operationally defined as in *terrorem* (Loyd, 1915; Geotz and Scott, 1977). *In terrorem* legally means in fright or alarm by way of threat (Black's Law Dictionary, 1979). Thus, a penalty clause seeks to prevent a promisor from breaching a contract by using financial punishment as a deterrent, thereby violating the compensatory paradigm of contract remedies because the punitive construct lacks justification on an economic basis (Calamari and Perrillo, 1987; Restatement, second, 1981). As a corollary then, the essential difference between a liquidated damages clause and that of a penalty clause is that the former attempts to place the nonbreaching party in the position that would have been experienced had a breach not transpired. The latter, however, attempts to force the breaching party to contractually

perform by invoking contractual punishment in the form of a specified monetary amount that is significantly disproportional vis-à-vis the actual financial damage amount sustained by the breach (Sweet, 1972; Williston, 1957).

Determination of Liquidated Damages and Penalty Clauses

Given the purpose of the study, the logical question is: How do the courts determine the difference between a liquidated damages clause and a penalty clause? Kaplan (1977) establishes that the courts, when ascertaining the validity of a liquidated damages clause, apply a three-prong test that includes: (a) the intent test, (b) the difficulty test, and (c) the reasonable test. Although, these three tests provide measurement for ascertaining the validity of a liquidated damages clause, its application produces much controversy within the literature (Gantt and Breslauer, 1967).

The Intent Test

The test for intent is based on the *objective theory of assent*. Application of this test places importance on whether the parties intended to liquidate damages in advanced on the basis of the parties' acts and words (Farnsworth, 1990). The parties' actions are judged by the standard of reasonableness. The words of the parties are given their clear meaning by the courts when interpreting the contract language (Kaplan, 1977). Finally, the courts examine the circumstances surrounding the parties at the time of contract (Corbin, 1964). Thus, the intent test examines the actions, words, and circumstances of the contracting parties at the time of contract execution.

The Difficulty Test

When the courts attempt to ascertain the difficulty of calculating damages, great weight is placed upon the degree of uncertainty involved in the estimate (Corbin, 1964). The greater the degree of difficulty in correctly estimating the accuracy of likely future damages, the more valid the liquidated damages clause becomes in the eyes of the court. Conversely, the more certainable the actual damages are to estimate, the more likely the court will be to construe the agreed damages clause as a penalty provision (American Jurisprudence, 22, 1964). Prentice (1937) writes that the uncertainty test refers to how readily capable and improbable a calculation for compensable damages will be to ascertain. The greater the improbable nature of the damages is to make certain, the more favorably the court views such a covenant as a valid operable liquidated damages provision (Prentice, 1937; American Jurisprudence, 13, 1964).

The Reasonable Test

In general, if the agreed damages amount is deemed unreasonable in view of the actual damages suffered by the breach, the court will construe the *proviso* a penalty provision and rule same invalid (Corbin, 1964). The reasonable test measures the probable approximation of the uncertain compensatory damages likely to occur in the future (American Jurisprudence, 13, 1964). The operative words used by the judicature in its application of the reasonable rule are "reasonable forecast," or an "honest forecast" (Dunbar, 1959). Reasonableness further draws on the notion of

disproportionality vis-à-vis the anticipated loss from the nonperformance. The larger the fixed sum is in relation to the anticipated loss resulting from the breach, the more likely the courts will rule the clause a penalty provision and, thus, unenforceable (Koezuka, 1990; Prentice, 1937).

Validity of Liquidated Damages Clauses

A review of the legal literature suggests that in determining the validity of a liquidated damages clause, the courts are consistently inconsistent in applying each test in each independent case. Mueller (1952) and MacNeil (1962) espouse that the case law is fraught with variant applications of the three-prong test and, therefore, court opinions are nebulous and ambiguous regarding the appropriate test or tests to be applied that distinguishes between a valid liquidated damages clause, and one that is determined to be a penalty provision. It is suggested that the confusion found within the court opinions is a function of the courts being in disagreement over which tests are the appropriate test of law to apply when construing the validity of a liquidated damages agreement Murray (1974). Based upon the literature, one might conclude that the courts do not demonstrate any consistency, or application preference in applying the three test that formulate a decision criteria when determining the validity of a liquidated damages clause.

The prime contractor often contends that a liquidated damages clause is in actuality a penalty provision (Ward, 1985). Thus, the contractor sues the owner for the balance on account for monies held in retainage and, or for relief of the liquidated damages in general. Owing to the supposed confusion by the courts in ascertaining the validity of a liquidated damages clause, the managerial problem encountered by the contractor is whether or not to pursue the legality of it. The management decision to challenge the validity of such a clause creates a business risk decision that may possibly threaten the financial position of the firm (Hardie, 1981). Within this risk decision is the inherent legal and managerial question of whether or not the construction organization should challenge the validity of a liquidated damages clause by initiating formal legal proceedings in view of the supposed uncertain preference of the courts in this area of contract law. The managerial risk is the uncertainty of receiving a disfavorable court award as a result of the supposed inconsistencies in court decisions and, thereby incur further financial loss. In order to make informed risk decisions and, thereby mitigate a degree of uncertainty, good management decision requires probabilistic projections on the certainty of future outcomes. Despite this pervasive requirement by management, currently, there exists a paucity of literature regarding studies that apply statistical analyses to determine specifically the application preference of the courts relative to this test prong (Sweet, 1972). Although the literature concerning liquidated damages is extensive, erudites on the subject appear satisfied with broad generalities encompassing statements about the extreme uncertainties in this area of law by placing reliance in interpretative qualitative analysis of past judicial decisions. Although such a prior knowledge is meritorious, it unequivocally lacks scientific investigation. Therefore, the purpose of this research study is to provide management of the construction industry with a quantitative study that empirically measures the application preference of the courts for the intent test when ascertaining and construing the validity of a liquidated damages clause in a construction contract.

A Closer Look at the Intent Test

The intent test criterion places importance on the measurement of whether or not the parties intended to liquidate damages in advance of the contractual breach (Kaplan, 1977). The court, using the canons of interpretation, investigate the parties intent on the basis of its expression in words and the circumstances surrounding the parties at the time of contract (McCormick, 1935; Corbin, 1964). The application preference of the intent test by the courts to ascertain the validity of a liquidated damages clause is an issue that divides learned scholars on the topic into two groups. One group of writers adheres to the belief that the intent test has applied preference by the courts and is a decisive test in determining the validity of a liquidated damages clause. For example, it is postulated that the intent test is the preferred measure of the courts in testing enforceability of an agreed damages clause Mueller (1952). MacNeil (1962), argues similarly that the intent test is one of the critical deciding variables in the court's analysis. Peckar (1972) comments that the intentions of the contracting parties are critical in the determination of enforcement of the clause. Peckar also comports that it is the application of the intent test that ascertains whether the stipulated damages clause operates as a measure of compensatory relief, or whether it operates as an in terrorem provision in the contract. Finally, Ward (1985), also acknowledges the value of the intent test by maintaining, that same is one of the important elements that the courts discuss in testing the validity of a liquidated damages clause.

On the other hand, there are authors that believe the intent test is not a preferred test, and that it is not essential in ascertaining validity of the clause, thereby maintaining that currently the test is of little significance to the courts. Dunbar (1959) supports this point by maintaining that the courts pay "... lip service to the intention of the parties...", and that the courts apply the test of reasonableness and difficulty. Murry (1974) comments that the intentions of the parties is immaterial and that court opinions give it little consequence. Similarly, Kaplan (1977) elucidates that earlier court opinions determined the validity of a liquidated damages clause solely on the basis of the intent test, however, currently the contemporary trend is for the courts to virtually ignore the test. Two other authors, Calcamari and Perillo (1987), underscore the importance of the intent test by stating that the courts give the test "little moment" and, thus it is of minute import in the decision making process. Finally, Farnsworth (1990) likewise maintains, although the courts refer to the intention of contracting parties, the reference to the intent test is less frequent and of less weighted importance in relation to the difficulty and reasonable tests.

Data Analysis and Results

To test the hypothesis: the courts demonstrate no application preference for the intent test when ascertaining the validity of a liquidated damages clause, and whether there exist the presence of a trend a binomial univariate dimensional classification was employed. The univariate dimension variable is the intent test. The categorical levels, or dichotomous classification, for the dimension variable are: (a) not applied, and (b) applied.

Tables 1,2, and 3, shown below, provide the tabulations and calculations for the data summarized in Table 4. For the one-way classification matrix displayed in Table 4, a chi-square statistic equaling 7.00 was calculated. A critical chi-square with one degree of freedom using a 0.05

criterion level of significance equaled 3.84. Because the chi-square statistic at 7.00 is numerically larger than the chi-square critical at 3.34, the null hypothesis of no significant difference in application preference at a 0.05 level of significance is rejected.

Table 1

Frequency Distribution for the Intent Test: 10-Year Intervals

Chronological Time Intervals															
Intent Test	1858 1867	1868 1877	1878 1887	1888 1897	1898 1907	1908 1917	1918 1927	1928 1937	1938 1947	1948 1957	1958 1967	1968 1977	1978 1987	1988 1991	Totals
Case Count For Interval	1	1	3	11	22	25	7	4	8	10	12	20	33	18	175
Test Not Applied	1	1	1	2	12	12	4	1	5	3	8	16	24	15	105
Test Applied	0	0	2	9	10	13	3	3	3	7	4	4	9	3	70
Category					*%*										
Intent test not applied: 105 + 175 =					60.00										
Intent test applied: 70 + 175 =					40.00										

Table 2

Percent Application Preference for Intent Test

Interval Number	**Time Interval**	**Case Count for Interval**	**Test Applied**	**% Test Applied**	**Test Not Applied**	**% Test Not Applied**
1	1858 - 1867	1	0	0	1	100.0
2	1868 - 1877	1	0	0	1	100.0
3	1878 - 1887	3	2	67.0	1	33.0
4	1888 - 1897	11	9	81.0	2	18.0
5	1898 - 1907	22	10	45.0	12	48.0
6	1908 - 1917	25	13	52.0	12	48.0
7	1918 - 1927	7	3	43.0	4	57.0
8	1928 - 1937	4	3	75.0	1	25.0
9	1938 - 1947	8	3	38.0	5	62.0
10	1948 - 1957	10	7	70.0	3	30.0
11	1958 - 1967	12	4	33.0	8	67.0
12	1968 - 1977	20	4	20.0	16	80.0
13	1978 - 1987	33	9	27.0	24	73.0
14	1988 - 1991	18	3	17.0	15	83.0
	TOTALS	175	70	40.0	105	60.0

Table 3

Chi-Square Statistical Test: Application Preference of Courts for the Intent Test

Intent Test	fo	fe	fo - fe	(fo - fe)2	$\frac{(fo - fe)2}{fe}$
Not Applied	105	87.50	17.50	306.25	3.50
Applied	70	87.50	-17.50	306.25	3.50
TOTALS	175	175.0			
fe = 175/2 = 87.5					
X^2 statistic = 3.50 + 3.50 = 7.00					
X^2 critical = 3.84; df = 2 - 1 = 1; significance p < .05					
X^2 statistic = 7.0 > X2 table = 3.84 reject null hypothesis					

Table 4

Chi-Square Statistical Test: Application Preference of Courts for the Intent Test

Intent Test	fo	fe	% D	fo - fe	(fo - fe)2	$\frac{(fo - fe)2}{fe}$	% split
Not Applied	105	87.50	20	17.50	306.25	3.5	60
Applied	70	87.50	20	-17.50	306.25	3.5	40
TOTALS	175	175.00				7.00	100

Note: The expected frequency of 87.50 indicates a 50/50 split in court applications preference. A 50% split outcome represents no application preference by the courts to apply the intent test.

Rejection of the null hypothesis results from the numerical deviation equal to 20%, which is the numerical difference between the observed frequency (f_o) and the expected frequency (f_e). This 20% deviation represents nonrandom disagreement between the actual data retrieved by the descriptive survey (f_o) versus the expected probabilistic frequency (f_e) proffered by the hypothesis. These results indicate that the courts demonstrate a preferred patterned movement away from the hypothesized 50% split of no application preference for the intent test in the amount equal to the nonrandom deviation of 20%. Table 4, column titled *% split*, displays the actual percent data split to further support this finding. Given the 175 court cases observed 60%, or 105 cases, of the courts did not apply the intent test when ascertaining the validity of a liquidated damages clauses. While 40%, or in 70 cases, the courts did apply the intent test to determine the validity of a liquidated damages clauses. This outcome represents a descriptive statistical 60/40 split in application preference by the United States courts. These results indicate that the courts have historically, across the 1853 to 1991 time frame, demonstrated a patterned application preference of not applying the dimension variable intent test when attempting to ascertain the validity of a liquidated damages clause. Figures 1 and 2 graphically present the patterned application preference of the courts.

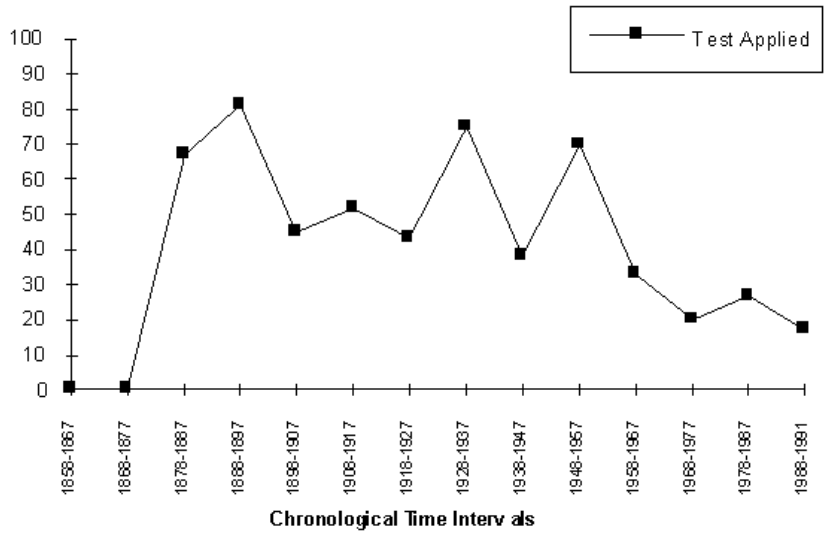

Figure 1. Application Preference for Intent Test.

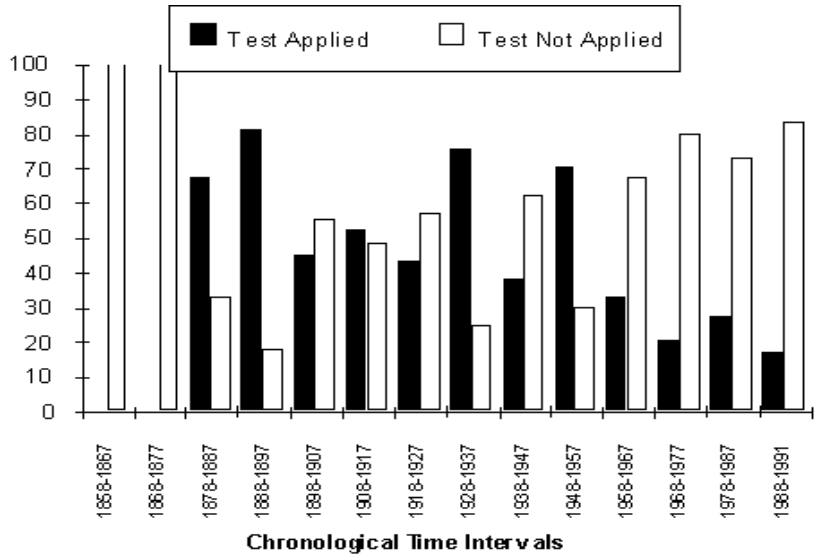

Figure 2. Applied Versus not Applied.

To test the second part of the hypothesis, a Stuart-Cox sign test for trend analysis was conducted for the time interval 1928 to 1991. Tables 5 and 6, shown below, display the data tabulations, calculations, and the stated null hypothesis for this particular analysis. For the data contained in Table 4, and for Figures 1 and 2, at $P(K \leq 5|5, 0.50) = 0.0624$ with significance at $a/2 = 0.025$, the null hypothesis contained in Table 6 cannot be rejected. It is therefore concluded, for the time frame 1928 to 1991, the data demonstrates that the United States court opinions display no presence of a trend for the current application preference in the categorical level *not apply* intent test.

Table 5

Data Compilation for Trend Analysis for the Application Preference of the Intent Test from 1858 to 1991

Time Interval	**Xi** **% Cases Test Applied**	**Time Interval**	**Yi** **% Cases Test Applied**	**Xi - Yi** **Sign Test**
1858 - 1862	0.00	1928 - 1932	66.67	-
1863 - 1867	0.00	1933 - 1937	100.00	-
1868 - 1872	0.00	1938 - 1942	33.33	-
1873 - 1877	0.00	1943 - 1947	40.00	-
1878 - 1882	0.00	1948 - 1952	50.00	-
1883 - 1887	66.67	1953 - 1957	83.33	-
1888 - 1892	75.00	1958 - 1962	0.00	+
1893 - 1897	85.71	1963 - 1967	50.00	+
1898 - 1902	40.00	1968 - 1972	12.50	+
1903 - 1907	50.00	1973 - 1977	25.00	+
1908 - 1912	38.46	1978 - 1982	40.00	-
1913 - 1917	66.67	1983 - 1987	0.00	+
1918 - 1922	40.00	1988 - 1991	16.67	+

Table 6

Data Calculation for Tend Analysis for Application Preference of the Intent Test from 1928 to 1991

Time Interval	Xi % Cases Test Applied	Time Interval	Yi % Cases Test Applied	Xi – Yi Sign Test
1928 - 1932	66.67	1963 - 1967	50.00	+
1933 - 1937	100.00	1968 - 1972	12.50	+
1938 - 1942	33.33	1973 - 1977	25.00	+
1943 - 1947	40.00	1978 - 1982	40.00	0
1948 - 1952	50.00	1983 - 1987	0.00	+
1953 - 1957	83.33	1988 - 1991	16.67	+

Statistical Hypothesis:

Ho: There is no trend present in the data

Ha : There is either an upward trend or downward trend

n¢ = 27 n = 5 K = 5 positive differences a/2 = 0.25

Test Statistic

P (K £ 5/5, 0.50) = 0.0312 * 2 = 0.0624 P = 0.0624 > a/2 = 0.025

Decision: Cannot reject null hypothesis; there is no trend present in the data

Upon closer inspection of Tables 1 and 2, and Figures 1 and 2, the outcome, no presence of a trend, is explained by the downward and upward movements for the time frame 1927 to 1967. Starting in 1937 and ending in 1947, the intent test curve moves downward 49.33%. For the time frame 1947 to 1957 an upward movement of 84.21% is observed. Finally, from 1957 to 1967 the intent test curve moves downward by 52.86%. These upward and downward variations create a mathematical smoothing effect in the application preference curve *do not apply* intent test, whereby the slope of the line is not significantly different from zero. This result indicates that the data, court opinions, displays no trend in the current application preference, *do not apply* intent test. Similar observations and explanations exist for the combined time interval 1967 to 1991. Consequently, because the percent variations from interval period to interval period are approximately equal in numerical magnitude, any cyclical upward or downward movement negates the prior periods upward or downward advancement. Although the courts demonstrate a significant statistical application preference for the classification category *not applied* intent test across the 1853-1991 time period, starting from the 1928 interval to present there is no presence of a statistical trend that would indicate that the classification category *not applied* for the dimension variable intent test will be the predictable application preference of the courts in the future.

One possible explanation for the upward and downward cyclical movement of the data could be based on the observations that the states of California, New York, and Illinois (plus the corresponding Federal circuits employing those state's laws,) are the most inconsistent in applying or not applying the intent test on a consistent basis. It was also observed that Missouri has applied the intent test with a degree of inconsistency. Other states, such as Tennessee and Alabama, appear to be equally (50/50) divided in application. Massachusetts has twice as many cases applying the intent test as it does not applying it, while Florida has demonstrated consistency in not applying the intent test.

Conclusions and Recommendations

The importance, and the intention, of this research study was to provide managers of the construction industry with a quantitative research study that empirically measures the application preference of the courts for the intent test. The study results show that the application preference of the courts for the intent test is in the direction of *do not apply*. Thus, at present, the intent test is not a measure utilized by the courts in the enforceability question of a liquidated damages clause.

The test for presence of a trend, however, resulted in no presence. Thus, although the present application preference is *not apply the intent test*, there exists no presence of a trend. This suggests that one cannot rely on the current application preference of the courts to continue with the current application preference in the future.

It is recommended that further studies be conducted to ascertain which states have contributed significantly to the cyclical nature of the data, and attempt to explain the political, economical, and social justification for such court movement.

References

American jurisprudence: A modern comprehensive text statement of American law (2nd. ed.). 1964. Building and Construction Contracts. 13, § 84-87, p. 50-88; §§47-81. The Lawyers Co.

Operative Publishing Company, Rochester, NY, San Francisco, CA: Bancroft-Whitney. *American jurisprudence: A modern comprehensive text statement of American law* (2nd. ed.).

1964. Damages. 22, §§ 683-707, pp. 743-764. The Lawyers Co-Operative Publishing Co. San Francisco, CA: Bancroft-Whitney.

Arditi, D., & Patel, B. (1989). "Impact analysis of owner-directed accelerations". *Journal of Construction Engineering and Management, 115*(1), 144-157.

Black's Law Dictionary of the terms and phrases of American and English jurisprudence, ancient and modern (5th ed.). (1979). H. C. Black, J. R. Nolan, & M. J. Connolly, (Eds.). St. Paul, MN: West.

Calamari, J. D., & Perillo, J. M. (1987). *Contracts* (Hornbook Series, 3rd ed., §§ 14-31, 14-32, pp. 639-644.). St. Paul, MN: West.

Corbin, A. L. (1964). *Corbin on contracts: A comprehensive treatise on the working rules of contract law.* 5, §§ 990-1121, pp. 319-331. St. Paul, MN: West. (Pocket Part).

Cushman, R. F., Hollyday, J., Miller, F. R., & Kiernan, V. J. (1990). "Delay claims". In R. F.

Cushman & D. A. Carpenter (Eds.), *Proving and pricing construction claims*. New York: Wiley, pp. 99-140.

Dunbar, F. C., Jr. (1959). "Drafting the liquidated damage clause——when and how". *Ohio State Law Journal, 20.* 221-236.

Farnsworth, A. (1990). *Contracts* (2nd ed.). Boston: Little, Brown, pp. 5-11, 120, 839-955.

Gantt, P. H., & Breslauer, R. C. (1967). "Liquidated damages in federal government contracts". *Boston University Law Review, 47*(1), 71-84.

Goetz, C. J., & Scott, R. E. (1977). "Liquidated damages, penalties and the first compensation principle: Some notes on an enforcement model and a theory of efficient breach". *Columbia Law Review, 77*(1), 554-594.

Hardie, G. (1981). *Construction contracts and specifications*. Reston, VA: Reston, pp. 238-239.

Jervis, B., & Levin P. (1988). *Construction law principles and practices*. New York: McGraw-Hill, pp. 10-11, 121-124.

Kaplan, P. R. (1977) "A critique of the penalty limitation on liquidated damages". *Southern California Law Review, 50*(4), 1055-1090.

Loyd, W. H. (1915). "Penalties and forfeitures". *Harvard Law Review, 29*(2), p. 118.
MacNeil, I. R. (1962). "Power of contract and agreed remedies". *Cornell Law Quarterly, 47*(4), 495-528.

McCormick, C. T. (1935). *Damages*. St. Paul, MN: West.

Mueller, C. G. J. (1952). "Functional approach in determining the validity of a liquidated-damages clause". *Texas Law Review, 30*(1), 752-765.

Murray, J. E., Jr. (1974). *Murray on contracts: A revision of Grismore on contracts*. Indianapolis, IN: Bobbs-Merrill, § 234, pp. 473-477.

Peckar, R. S. (1972). "Liquidated damages in federal construction contracts: Time for a new approach". *Public Contract Law Journal, 5*(1), 130-150.

Restatement of the Law, Second, Contracts. (1981). (Pamphlets 1, 2, & 3). St. Paul, MN: American Law Institute.

Simon, M. S. (1989). *Construction claims and liability*. New York: Wiley, pp. 312-313.

Sweet, J. (1972). "Liquidated damages in California". *California Law Review, 60*(8), 84-145.

Ward, W. (1985). "Liability for liquidated damages". In R.F. Cushman & J. P. Bigda (eds.), *The McGraw-Hill construction business handbook: A practical guide to accounting, credit, finance, insurance, and law for the construction industry* (2nd ed.). New York: McGraw-Hill, pp. 32-2, 32-8.

Williston, S. (1957). *A treatise on the law of contracts* (3rd ed.). New York: Baker, Vooh's, 11, p. 298.

Acknowledgements

This article is based upon research results previously reported as "Liquidated Damage Clauses In Construction Contracts: A Study Of The Intent Test", by Donald A. Jensen, James W. Craig, Jr., Brendan O'Mara, and Charles W. Berryman, in the *The American Professional Constructor*, Vol. 18, Number 4, December, 1994.