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MEASURING THE DURATION OF JUDICIAL AND ADMINISTRATIVE PROCEEDINGS†

David S. Clark* and John Henry Merryman**

A method of estimating the probable duration of litigation is useful for a variety of purposes. First, the probable duration of a case may, to some extent, determine strategy in litigation since prolonged litigation is often perceived as an appreciable cost to one party and as a benefit to the other.¹ An estimate of the duration of a criminal case, for example, probably influences the respective postures of a defendant and a prosecutor in plea bargaining.² Similarly, civil litigants may be able to use an estimate of the probable duration of litigation, together with other factors, in deciding whether to sue, defend, or settle.³

Second, a forecast of the probable duration of litigation may help improve the efficiency of our judicial system.⁴ On a general level,

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1. According to prevailing economic theory, the estimated measure will improve the allocation of societal resources to the same extent that it assists parties and counsel in reaching more accurate strategy decisions. See R. POSNER, *ECONOMIC ANALYSIS OF LAW* 333 (1972); Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUDIES 399, 400 (1973).

2. See Landes, *An Economic Analysis of the Courts*, 14 J. LAW & ECON. 61, 99 (1971); DonVito, *An Experiment in the Use of Court Statistics*, 56 JUD. 56, 58 (1972).

3. See Landes, *supra* note 2, at 103, 105; Posner, *supra* note 1, at 420-21.

4. In two classic studies, court congestion and delay has been called one of the most urgent problems facing the legal system. See A. LEVIN & E. WOOLLEY, *DISPATCH AND DELAY* 112-19 (1961); H. ZIESEL, H. KALVEN, JR. & B. BUCHHOLZ, *DELAY IN THE COURT* xxi (1959). The volume of literature addressed to the problem of court delay has been enormous and is reflected in several recent bibliographies on the subject. See, e.g., *MODERN JUDICIAL ADMINISTRATION* 153-75 (R. Fremlin ed. 1973); *JUDICIAL ADMINISTRATION AND THE LEGAL PROFESSION* 410-75 (F. Klein ed. 1963); D. TOMPKINS, *COURT ORGANIZATION AND ADMINISTRATION* 151-60 (1973); *Congestion and Delay in the Courts* 1-12 (B. Jackson ed. mimeograph 1971); *National College of the State Judiciary, Congestion and Delay* 1-7 (mimeograph 1972);

such an estimate provides information needed in the formation of policy for judicial administration.⁵ More specifically, it may help determine the relative efficiency of various courts and administrative tribunals in adjudicating different types of cases and thus provide a valuable aid in assigning cases and staffing courts and tribunals.⁶

Finally, the estimate may be useful in the study of law and social change. The duration of litigation is one quantitative measure of legal activity that, in combination with other legal, social, economic and political data, may permit the development of hypotheses about law and society that can be tested empirically.⁷ In this way, an index

Wheeler & Whitcomb, *The Literature of Court Administration*, 1974 ARIZ. ST. L.J. 689, 705-16.

There are also at least six national organizations currently interested in the question of judicial delay, all of which periodically issue reports or newsletters: The American Judicature Society, The Federal Judicial Center, The Institute of Judicial Administration, The Judicial Administration Division of the American Bar Association, The National Center for State Courts, and The National College of the State Judiciary. Commissions have been established and specifically directed to examine the problem. See, e.g., AMERICAN BAR ASSOCIATION, A.B.A. PROJECT ON MINIMUM STANDARDS FOR CRIMINAL JUSTICE 5-31, 40-42 (1968); FEDERAL JUDICIAL CENTER REPORT, STUDY GROUP ON THE CASELOAD OF THE SUPREME COURT [THE FREUND REPORT] (1972); U.S. PRESIDENT'S COMMISSION ON LAW ENFORCEMENT AND ADMINISTRATION OF JUSTICE, TASK FORCE REPORT 80-90 (1967).

The issue of court delay is not unique to the United States. See WORLD ASSOCIATION OF JUDGES & INTERNATIONAL LEGAL CENTER, COURT CONGESTION—SOME REMEDIAL APPROACHES (1971); Cappelletti, *Social and Political Aspects of Civil Procedure—Reforms and Trends in Western and Eastern Europe*, 69 MICH. L. REV. 847, 855-60 (1971).

5. See COURT CONGESTION AND DELAY (G. Winters ed. 1971). Economists who analyze court delay argue that it is an omnipresent feature of social life and is not necessarily an unmitigated evil. These economists argue that the costs of delay should be balanced against the costs of shortening a court queue. See R. POSNER, *supra* note 1, at 355-56; Casper & Posner, *A Study of the Supreme Court's Caseload*, 3 J. LEGAL STUDIES 339, 348 (1974). According to this line of reasoning, minimization of delay alone is not an appropriate formulation of a judicial reform goal. The goal of a procedural system should be to minimize the sum of the cost of erroneous judicial decisions plus the cost of operating the adjudicative body. See R. POSNER, *supra* note 1, at 333; Posner, *supra* note 1, at 399-400, 448.

6. A duration index could, for example, be used to measure the speed of litigation at several levels in a judicial or administrative hierarchy. Other comparisons might be made between courts or agencies at the same level, between federal courts or agencies on the one hand and state bodies on the other, between criminal and civil cases, and between types of cases decided within any particular court (*i.e.*, landlord-tenant disputes as opposed to medical malpractice disputes). See J. REED, *THE APPLICATION OF OPERATIONS RESEARCH TO COURT DELAY* (1973).

7. For instance, the Federal Judicial Center recently completed its initial forecasting of federal district court caseloads. Instead of basing caseload predictions on filing trends from previous years, they were instead founded on the hypothesis that variations in litigation activity are more accurately signaled by changes in social, political, economic and demographic indicators. By measuring variations in these indicators and relating them to changes in filings, the goal is to describe case filing experience in terms of indicator activity and then to monitor these indicators to predict litigation activity in the future. FEDERAL JUDICIAL CENTER, ANNUAL REPORT 1975. Researchers have also analyzed a variety of other factors. See H. ZIESEL,

of the duration of litigation may prove to be a basic working tool for an empirical social science of the law.⁸

One obvious way to measure the duration of litigation is to determine retrospectively the time it took to dispose of cases. Such a procedure would generate a string of numbers showing, illustratively, that one case lasted 176 days, another lasted 545 days, and so on.⁹ This approach, while adequate for some purposes, is too cumbersome and too expensive for wide use, and too particular to permit generalization and prediction. A second way to estimate duration is to reduce the duration figures for specific cases to a single summary statistic measuring the mean, median, or modal duration. This procedure, however, is also too cumbersome, since it frequently requires that the actual duration of at least enough cases for a statistically valid sample be determined from uncompiled data in judicial archives.¹⁰

H. KALVEN, JR. & B. BUCHHOLZ, *supra* note 4, at 251-62 (forecasting future workloads); Institute of Judicial Administration, *Calendar Status Study—1974* viii (mimeograph) (relating population concentration to time lapse in personal injury); DonVito, *supra* note 2, at 56-58 (explaining urban court congestion using duration as one of several independent variables); Sykes, *Cases, Courts, and Congestion*, in *LAW IN CULTURE AND SOCIETY* 327, 330-36 (L. Nader ed. 1969). See also Blumstein, *Management Science to Aid the Manager*, 15 *SLOAN MANAGEMENT REVIEW* 35 (Fall, 1973).

8. The development of a set of such legal measurements is one objective of SLADE (an acronym for Studies in Law and Development), a comparative study of law and social change in six nations centered at the Stanford Law School.

The six nations are Chile, Colombia, Costa Rica, Italy, Peru and Spain. Together with the authors and Professor Lawrence Friedman, scholars from each of these nations participated in the research design. In addition, the national scholars were primarily responsible for most of the field research, and are now preparing national monographs in which they present and discuss their results. The national scholars are Edmundo Fuenzalida Faivovich (Chile), Fernando Rojas (Colombia), Carlos José Gutiérrez (Costa Rica), Sabino Cassese and Stefano Rodotà (Italy), Lorenzo Zolezzi (Peru) and José Juan Toharia (Spain).

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9. One problem is that there is some confusion with regard to what duration really means. Does a time lapse period for civil matters begin with the filing of a complaint, the filing of an answer, or from the point at which a case is in issue? See A. LEVIN & E. WOOLLEY, *supra* note 4, at 329. For criminal cases, does it begin with the indictment or information, or from the initial court appearance? See DonVito, *supra* note 2, at 58; Levin, *Delay in Five Criminal Courts*, 4 *J. LEGAL STUDIES* 83, 84 (1975).

10. With few exceptions, record keeping for adjudicative bodies in the United States is at a primitive stage. DonVito, *supra* note 2, at 56. The first systematic data on the average (in this case median) duration of litigation in the United States was published for the federal courts in 1941. See *JUDICIAL CONFERENCE OF SENIOR CIRCUIT JUDGES, ANNUAL REPORT OF THE DIRECTOR OF THE ADMINISTRATIVE OFFICE OF THE UNITED STATES COURTS, 1941*, at 55-57. Today a median duration is calculated for both civil and criminal cases in United States district courts and courts of

The equation for estimating the duration of litigation proposed in this article, in contrast, uses the number of cases pending at the beginning of a year and the number of cases filed during that year, data regularly compiled and published in many nations.¹¹ In deriving this formula, suppose that

appeal. JUDICIAL CONFERENCE OF SENIOR CIRCUIT JUDGES, *supra*, 1975, at 290, 297-304, 421-37, 479-81.

In 1969, only two states—California and New York—were reported to have mean or median time lapse data calculated and available. American Judicature Society, *The Quality of State Judicial Statistics 2* (Report No. 27, mimeograph, June 1969). Today, the situation is slightly improved with data available for Maryland, New Jersey and part of Pennsylvania. DonVito, *supra* note 2, at 58. In other countries, the authors have been unable to locate published statistics on the average duration of litigation.

For the past 13 years, the Institute of Judicial Administration has compiled a comparative analysis of the duration of personal injury cases tried by juries in the principal trial courts of general jurisdiction in the United States. Using a sample of cases from each jurisdiction, delay has been measured by calculating the median elapsed time from the date of service of the answer to the complaint until the date of trial. Institute of Judicial Administration, *supra* note 7, at i-ii. Other research using a sample of cases to study average delay includes France, *Order in the Courts Revisited: Progress and Prospects of Controlling Delay in the Tort Jury Litigation Process, 1966-1973*, 7 AKRON L. REV. 5, 6-11, 35 (1973) (average delay in tort and criminal jury trials in various Ohio counties) and A. LEVIN & E. WOOLLEY, *supra* note 4, at 120-37 (delay in civil jury cases in seven Pennsylvania counties).

11. Although significant improvement has been made in the United States in the past ten years, it is still possible to echo the sentiment of Kalven and Zeisel regarding the "wretched state of judicial statistics." H. KALVEN, JR. & H. ZIESEL, *THE AMERICAN JURY* 12 (1966). The United States Department of Justice recently published information on those state courts that compile data on the number of cases pending, the number of new cases filed, and the average elapsed time before cases are terminated. U.S. DEPARTMENT OF JUSTICE, LAW ENFORCEMENT ASSISTANCE ADMINISTRATION, NATIONAL SURVEY OF COURT ORGANIZATION 69-77 (1973). Nevertheless, even for the most current year available, it would be much easier to do research on litigation delay using the proposed duration of litigation index than to rely on compiled average elapsed time data. Besides the federal courts, for which both types of information are now available, average elapsed time data is gathered for only 20 per cent of the state courts, while data on the number of cases filed and pending is compiled for 73 and 62 per cent of the state courts respectively. *Id.* at 8.

For historical research, the proposed duration of litigation index would prove even more useful. Average elapsed time (*e.g.*, median duration) statistics have only been available since 1941, *see* note 10 *supra*, and then only for some federal courts. However, sufficient information on the number of cases pending and filed for federal courts has been published since 1871 for criminal cases and since 1876 for civil cases by the Attorney General of the United States (up to 1940) and by the Administrative Office of the United States Courts (after 1940). Useful statistics for state courts were a spinoff of the crime surveys of the 1920s when a few jurisdictions began collecting data. The experience of various states paved the way for the Bureau of the Census to begin compilation of relevant information until 1946, when the program was abandoned. *See* McCafferty, *The Need for Criminal Court Statistics*, 55 JUD. 194 (1971). An annotated bibliography on historical state court statistics can be found in JUDICIAL ADMINISTRATION AND THE LEGAL PROFESSION, *supra* note 4, at 265-68.

Outside the United States, the proposed duration of litigation index has been calculated for various courts in Colombia, Costa Rica, Italy, Peru and Spain in conjunction with the SLADE project at Stanford. *See* note 8 *supra*. In addition, Sarat and Grossman report that it is possible to find information on the number of

P_t = number of cases pending at the beginning of year t ;
 F = number of new cases filed during year t ;
 J = number of cases decided with a final judgment during year t ;¹² and

W = number of cases withdrawn or dismissed during year t .
 Assuming that J and W are constant,¹³ then the number of years (D) required to dispose of $(P_t + F)$ cases is¹⁴

$$D = \frac{P_t + F}{J + W} - 1 \quad (1)$$

If it is further assumed that cases are decided in order of filing,¹⁵ and that the last case for year t is filed on or near December 31,¹⁶ then D for year t provides an estimate, for use in year $t + 1$, of the number of years to adjudicate a newly filed case. A new D can be calculated at the end of each year, thereby compiling a series of D

cases filed from the statistical abstracts for Australia, Denmark, Finland, Japan, New Zealand, Norway, South Korea, Sweden and West Germany. Sarat & Grossman, *Courts and Conflict Resolution: Problems in the Mobilization of Adjudication*, 69 AM. POL. SCI. REV. 1200, 1208 (1975). Data have been published in England on the volume of civil and criminal matters since 1858. See LORD HIGH CHANCELLOR REPORT OF THE COMMITTEE ON CIVIL JUDICIAL STATISTICS 2 n.57 (1968).

12. "Final judgment" refers to a noninterlocutory judgment that disposes of a case at that level of adjudication. An appeal can be taken from a final judgment to the next higher level in the adjudicative hierarchy.

13. Actually it is only necessary to assume that the sum of J and W remains constant, since it is the quantity $(J + W)$ that is the denominator in equation (1). Thus J and W can vary widely with relation to each other and still provide the same value for D .

14. A formula employing the same variables has in fact already been developed. See M. CAPPELLETTI, J. MERRYMAN & J. PERILLO, *THE ITALIAN LEGAL SYSTEM* 126 n.69 (1967); Cappelletti, *supra* note 6, at 859 n.60.

The formula was as follows:

$$D = \frac{P_1 + P_2}{F + (J+W)}$$

where

D = probable duration of litigation in years;
 P_1 = number of cases pending at the beginning of the year;
 P_2 = number of cases pending at the end of the year;
 F = number of new cases filed during the year;
 J = number of cases that reached final judgment during the year; and
 W = number of cases withdrawn or dismissed during the year.

It was discarded because it contains a logical defect in the denominator: If $(J + W)$ remained constant, the duration of litigation would decrease as F increased when intuitively the contrary result should be reached.

15. Strict queuing, of course, may not be followed. Some cases are given preference by the court and other cases may be deferred by the voluntary action of the parties with the permission of the court. Either of these occurrences will lessen the value of D as a guide for litigants. See H. ZIESEL, H. KALVEN, JR. & B. BUCHHOLZ, *supra* note 4, at 45.

16. This assumption is reflected in the (-1) term in equation (1), which acts to subtract one year from D .

statistics hereinafter called the index of the probable duration of litigation.

Equation (1) can be simplified. The number of cases pending at the beginning of the next year (P_{t+1}) can be expressed as

$$P_{t+1} = P_t + F - J - W \quad (2)$$

the terms of which can be rearranged to

$$J + W = P_t + F - P_{t+1} \quad (3)$$

Substituting (3) into (1) we get

$$D = \frac{P_t + F}{P_t + F - P_{t+1}} - \frac{P_t + F - P_{t+1}}{P_t + F - P_{t+1}}$$

or, in a simplified form,

$$D = \frac{P_{t+1}}{P_t + F - P_{t+1}} \quad (4)$$

This final form of the equation is equivalent to

$$D = \frac{P_{t+1}}{J + W} \quad (5)$$

However, equation (5) is less useful than (4) as a calculating equation because W is generally unavailable.

In other words, we have arrived at a fairly simple notion that D represents the initial "input" in the current year (P_{t+1}), or the cases pending at the *end* of the prior year, divided by the "output" in the prior year ($J + W$). Thus, the equation is in effect an annual input-output ratio that estimates the time that should elapse before a newly filed case will be decided.

It must be recognized that D is an estimate and not the duration of any particular case.¹⁷ However, its ease of calculation and the relative availability of the required data make it a highly convenient index.¹⁸

17. Measures similar to the one proposed here have previously been used. For example, Landes was interested in using an econometric model to analyze factors that determine the choice between pre-trial settlement and trial within the criminal justice system. Unable to find adequate data on the median duration (Q) from filing to judicial disposition of criminal cases for United States district courts for the early 1960s, he devised a proxy variable for Q (which was available for the late 1960s) that could be computed for the entire longitudinal spectrum in which he was interested. The proxy variable was defined as the ratio of pending cases (P) at the end of year $m-1$ to the average number of cases that go to trial (T) in years m and $m-1$. The accuracy of P/T as an estimate of median duration (Q) was checked by running a simple regression of Q on P/T for those years when both series of data were available. P/T was positively related to Q , accounting for nearly half of the variation in Q . See Landes, *supra* note 2, at 86-87.

DonVito, in presenting a set of indicators to measure the dimensions of urban court congestion, formulated a backlog index, but did not suggest its use as a measure of average duration. His index was expressed as the ratio of cases pending at the end of the year (P) to the number of cases terminated for the year (J) or P/J . See DonVito, *supra* note 2, at 63.

18. The proposed duration of litigation index (D) appears to be highly correlated

Although useful for the calculation of D, equation (4) does not permit a determination of the relationship between J and W. The value of D is unaffected by the relationship of these variables since it is the *sum* of J and W, or $P_t + F - P_{t+1}$, that comprises the denominator of equation (4). It may be helpful, however, to derive a statistic (R) that shows the number of cases reaching final judgment in a year as a percentage of the cases terminated during that year. A comparison of D and R might then permit some rather tentative conclusions regarding the behavior of litigants as D varies.

The relationship between J and W may be represented by

$$R = \frac{J}{J + W} \quad (6)$$

and R may be termed the "judgment ratio." Substituting (3) into (6), we have

$$R = \frac{J}{P_t + F - P_{t+1}} \quad (7)$$

R can vary between one and zero. If R has a value of one, all cases that were terminated during the year reached final judgment. As the value of R declines, an increasing proportion of the cases terminated were withdrawn or dismissed before final judgment.¹⁹ If R is zero, no cases reached final judgment.

with the median duration statistic that has recently been used for some courts in the United States. To establish this proposition, D was calculated for the eleven United States courts of appeal on an annual basis for the five-year period of 1970-1974. By carrying out a simple regression for D and the median duration figures given for the same courts, an R^2 of 0.54 was calculated. D, as a proxy variable, thus explains in this case 54 per cent of the variation in figures of median duration of litigation. For the duration data, see U.S. ADMINISTRATIVE OFFICE OF THE UNITED STATES COURTS, ANNUAL REPORT, 1974, at 1-11.

There is more about the relationship between D and recent measures of median duration that is interesting. For the eleven courts of appeal mentioned above, the mean of all D's was 15 per cent larger than the mean for all median duration figures. A similar relationship has been found between the true mean of elapsed time (duration) for the disposition of cases and the median duration. See A. LEVIN & E. WOOLLEY, *supra* note 4, at 311; Comment, *Local Procedure and Judicial Efficiency: A Comparative Empirical Study of Texas Metropolitan District Courts*, 49 TEXAS L. REV. 677, 686 (1971). The mean is almost always greater than the median as a summary statistic of duration figures (in other words, the curve is skewed to the right). That is, most court cases are processed in a relatively short period while a substantial minority take much longer periods of time. From the relationships observed, it appears that D is closer to a true mean than to a median measure of the average duration of litigation.

19. A great deal of care must be used when comparing J and W data across jurisdictions, especially transnationally. For example, in United States civil courts, the number of cases filed (F) over a period of years generally equals the number of cases listed as terminated (J + W). Since neither J nor W is reported separately, W cannot be calculated. However, in Italy, the number of cases decided over a period of years is less than the number of cases filed. It is possible, therefore, to calculate W from the official statistics where P_t , P_{t+1} , F, and J are known, since $W = P_t + F - P_{t+1} - J$. The same care in guaranteeing the comparability of

To illustrate the application of our equations, we have collected in Table 1 statistics on the number of cases filed, decided, and pending in Italian *preture*, courts of general civil jurisdiction over claims of moderate amounts,²⁰ for each year from 1947 to 1970.

TABLE 1
CIVIL LITIGATION IN ITALIAN PRETURE, 1947-1970

t	F	J	P_t	P_{t+1}	D	R
Year	Cases Filed	Cases Decided	—Cases Pending— Beginning of Year	End of Year	Duration of Litigation Index	Judgment Ratio
1947	136548	42578	76632	99181	0.87	0.37
1948	176642	49425	99181	129022	0.88	0.34
1949	203489	58360	129022	160488	0.93	0.34
1950	172411	59283	160488	172234	1.07	0.37
1951	226744	79094	172234	188645	0.90	0.38
1952	232901	82484	188645	207585	0.97	0.39
1953	216810	88717	207585	202583	0.91	0.40
1954	221555	94005	202583	190754	0.82	0.40
1955	253374	93366	190754	178924	0.67	0.35
1956	247800	90754	178924	188639	0.79	0.38
1957	229741	88141	188639	198868	0.91	0.40
1958	224013	85529	198868	209823	0.98	0.40
1959	206081	82916	209823	203299	0.96	0.39
1960	205930	80304	203299	224183	1.21	0.43
1961	198674	77691	224183	240836	1.32	0.43
1962	202572	75079	240836	257488	1.38	0.40
1963	215200	75746	257488	277671	1.42	0.39
1964	213245	74913	277671	297853	1.54	0.39
1965	199259	82026	297853	290699	1.41	0.40
1966	191780	83096	290699	298481	1.62	0.45
1967	212453	79129	298481	303416	1.46	0.38
1968	209466	89665	303416	308327	1.51	0.44
1969	215148	89720	308347	317806	1.55	0.44
1970	222748	89907	317806	330560	1.57	0.43

Source: ISTITUTO CENTRALE DI STATISTICA, ANNUARIO STATISTICO ITALIANO [1947-1949]; ISTITUTO CENTRALE DI STATISTICA, ANNUARIO DI STATISTICHE GIUDIZIARIE [1950-1970].

As Table 1 shows, there were 317,806 civil cases on the dockets of all *preture* at the beginning of 1970 (P_t), 222,748 cases filed during that year (F), and 330,560 cases still pending on December 31, 1970 (P_{t+1}). Applying equation (4), and recognizing its underlying assumptions, a civil litigant in a case filed in 1971 could expect to wait 1.57 years for final adjudication.²¹

The judgment ratio (R) describes the relationship between the two output variables J and W. Since we know P_{t+1} , P_t , F, and J from Table 1, W can be determined from an equation derived earlier:²²

J and W must be exercised when trying to control for cases plea bargained or dismissed in penal litigation.

20. In the 1960s, this jurisdiction included most cases in which the amount at issue was under 1200 dollars. See M. CAPPELETTI, J. MERRYMAN & J. PERILLO, *supra* note 14, at 79.

21. To the extent information is available for individual courts, or subgroups of the total number of courts, calculation of D would be more useful for a particular litigant deciding whether to sue, settle or defend.

22. See equation (3) *supra*.

$$P_{t+1} = P_t + F - J - W$$

In 1970, for example, we find that 120,087 cases were settled before final judgment, withdrawn, or allowed to lapse for other reasons. Using equation (7), we derive a judgment ratio of 0.43, which means that forty-three per cent of the cases terminated by *preture* in that year reached final judgment.

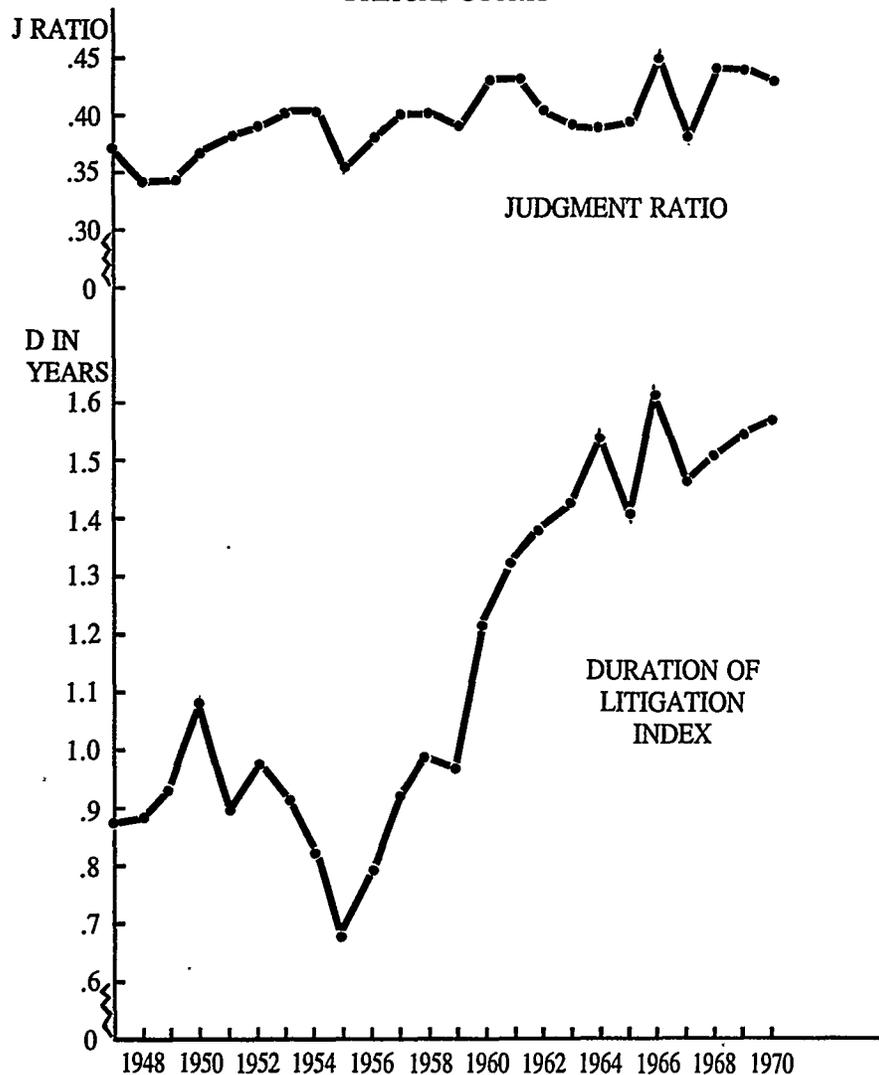
We would normally expect D to vary with changes in the number of cases filed (F), the number of cases adjudicated (J), or the number of cases terminated before adjudication (W). The relationship among these variables may be studied in reference to data from Table 1 that correspond to the two "peaks" in the graph of D from 1947 to 1970 that, together with a graph of R for the same period, is shown in Figure 1 (on page 98).

The first peak in D occurred in 1950 when the index of duration measured 1.07, an increase from 0.88 in 1948. In the first year of this two-year period, an increase in D from 0.88 to 0.93 is associated with an increase of 26,847 in F and a smaller increase of 8,935 in J. Further, R remained constant from the previous year at 0.34, which according to equation (6), means there was an increase in W as well as in J. From 1949 to 1950, however, the increase in D from 0.93 to 1.07 is associated with a *decrease* in F and again a slight increase in J, unlike the situation in the preceding year where D, J and F all increased. This difference is associated with a rise in the R curve from 1949 to 1950 as the percentage of cases that reached final judgment increased from 0.34 to 0.37. In other words, according to equation (6), there was a decline in the percentage of cases dismissed, withdrawn, or allowed to lapse. The increase in J may suggest that judges in the *preture* worker longer hours or more efficiently. The decrease in W, which can be calculated by slightly rearranging the terms in equation (3), over the two-year period may suggest that litigants were less willing to settle their disputes.

The second peak in the duration index is reached in 1966, following a decade-long increase in D. From 1955 to 1966, an increase in D from 0.67 to 1.62 is associated with decreases in F from 253,374 to 191,780, and in J from 93,366 to 83,096. The increase in D is logically associated with a decrease in F since we might expect fewer new cases to be filed as litigants become less willing to shoulder the costs of protracted litigation. Further, we might also logically have expected D to decline as F dropped. Yet just the opposite result is observed since R *increases* from 0.35 to 0.45 as J *decreases*. This means W must have declined at a faster rate

FIGURE 1

JUDGMENT RATIO (R) AND DURATION OF LITIGATION
INDEX (D) FOR CIVIL CASES PROCESSED IN ITALIAN
PRETURE COURTS



Source: Table 1

than J. The number of cases that reached final judgment could have decreased due to a reduction in the number of judges and staff or the size of the budget. The increase in R, on the other hand, could have been caused by changes in the rules of procedure or shifts in

the attitudes of judges, lawyers and litigants toward the judicial process.

A method of estimating the probable duration of litigation in judicial and administrative proceedings has been presented. It should be useful to attorneys and their clients in developing litigation strategy, to judges and administrators staffing tribunals, to reformers formulating policy for judicial administration, and to social scientists studying the interface between society and legal change.