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APPELLATE COURT OPERATIONS AND REVERSAL RATES

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INTRODUCTION

Although there is a great deal of research on appellate court reversal rates, little is known about the impact of procedural or structural features of the courts. Empirical research in this area is almost exclusively descriptive, aimed at determining the variation of reversal rates over time, between courts, and between issue types (for example, Note 1923, Meeker 1984, Chapper and Hanson 1990). An exception is Davies' contention that low reversal rates in the California Court of Appeals, Division One, result from "norms of affirmance," which are legal principles such as the harmless error rule, that typically lead to affirmances (Davies 1984).

This paper makes an initial stab at determining the impact of organizational features on reversal rates. Specifically, I explore the impact of caseload growth, delay, and unpublished opinions on reversal rates. These factors are chosen in part because they are among the most important changes in appellate courts in recent decades. Also, these three are interesting because, like many issues pertaining to court operations, they encounter major problems concerning the uncertainty of causal direction. The factors that can affect reversal rates can in turn be affected by them. This simultaneity problem, for example, affects the research by Davies (1982). His "norms of affirmance" may well be products

of a desire to affirm instead of, or in addition to, factors that actually cause the high affirmance rates.

Because the relationship between court operations and reversal rates is virgin territory for social science research, and there is little theory to go on. But what is known of appellate court operations suggests numerous causal mechanisms in either direction. The following paragraphs list some of the major possibilities.

1) Filings and reversal rates.

a) More filings may lead to fewer reversals because they overload the court, such that the judges less thoroughly review appeals for error. In addition, more filings may mean that litigants are appealing more marginal cases, which are less likely to be reversed.

b) More reversals may cause litigants to bring more appeals because the chances of success are better.

2) Delay and reversal rates.

a) More delay may lead to lower reversal rates because it may prompt litigants to appeal marginal cases in order to gain time before the final decision and because litigants may use delay as a bargaining chip. On the other hand, a delay reduction program may temporarily lead to lower reversal rates if the program involves an effort to accelerate decisions in more

straightforward appeals, which are less likely to be reversed.

b) Higher reversal rates may cause more delay because reversals often require more thorough review of the record and more interaction between judges.

3) Decisions without published opinions and reversal rates.

a) There are several reasons why more decisions without published opinions may lead to lower reversal rates. They may result from a greater proportion of straightforward appeals. Greater use of decisions without published opinions may signify that the court is putting less effort into the appeals and, thus, less often uncovering error.

b) Lower reversal rates may lead to more decisions without published opinions because the judges, in their desire to affirm the lower court, may "hide" affirmances that contradict established authority by not issuing published opinions.

Thus, this preliminary list suggests that the three organizational variables might be affected by reversal rates, as well as affected them. The causal possibilities listed above, moreover, are surely incomplete: more thought and more knowledge about the appellate process should produce more

likely connections. Also the numerous connections may not apply equality to all types of appeals. For example, factors concerning delay and backlog are less likely to apply to criminal cases, which generally have scheduling priority and, thus, which are less affected by congestion then civil cases. In all, however, the possible causal connections discussed above are purely conjecture; no established theory or empirical research provides evidence for any of the causal directions or for the elimination of any.

RESEARCH PROCEDURE.

Granger Test

The social sciences have available two procedures for addressing possible reciprocal causation, simultaneous equations and the Granger test. The former requires the use of identifying restrictions, with a third variable that is known to cause one factor (for example, reversal rates or filings) but not the other and is known not to be caused by either. Here, as typically happens, there is no obvious choice for such a variable.

Hence, this paper uses the second procedure, the Granger test, which is commonly used econometric procedure for exploring causal direction when simultaneity bias is suspected (Granger 1969; Pindyck and Rubinfeld 1991: 216-219; Madalla 1988: 329-331). It is a form of vector autoregressive (VAR) analysis, which is designed for situations like the present

where, because data and theory are incomplete, numerous forces that may affect the key variables cannot be entered into the model (Pindyck and Rubinfeld 1991: 353-354). We apply the Granger test to a pooled time series-cross section model, which, as will be seen later, also reduces the chances of missing variable bias by entering year effects.

Under the Granger test, when there is reason to believe that two variables, X and Y may be simultaneously determined, the following two regressions are run:

$$(1)\ X_t = \alpha_o + \alpha_1 X_{t-1} + \ldots + \alpha_k X_{t-k} + \beta_1 Y_{t-1} + \ldots + \beta_k Y_{t-k} + U_{1t}$$

$$(2)\ Y_t = a_o + a_1 Y_{t-1} + \ldots + a_k Y_{t-k} + b_1 X_{t-1} + \ldots + b_k X_{t-k} + U_{2t}$$

where X is the reversal rates, Y is the filing volume (or delay or decisions without published opinions), and U is the error term. In the first regression, the reversal rate variable is regressed on itself and lagged values of filing volume; in the present study we use the first and second lag. The coefficients on the lagged values of filing volume are tested for significance using an F test. If significant, we have reason to believe that changes in filing volume precede changes in reversal rates. The second part of the test similarly explores the precedence of reversal rates to filing volume. If both F values are significant, there is evidence of simultaneity.

The Granger test determines temporal precedence, which implies but does not prove causation. It is possible that

significant results are spurious, due to the impacts of third variables; although the lagged dependent variables and year dummies mitigate this problem. The lagged independent variable might be affected by anticipatory changes in the current year dependent variable; for example, it is conceivable that filings increase because attorneys (correctly) believe that reversal rates will increase in later years. In that case, the later year reversal rates "cause" the current year filing volume. We assume, however, that attorneys not prescient on such matters.

Pooled Regression.

The Granger test is applied to data from five intermediate appellate courts for cases filed in 1971 to 1987, applying the fixed effects model, the standard regression procedure for pooled data (Mundlak 1978; Hsiao 1986). The fixed effects model enters dummy variables for each court, except the first, and they control for overall differences between the courts' reversal rates. (The fixed effect model also uses dummy variables for each year, but these are deleted when they are not significant, as is the case here.)

The initial step in the regression is to test for stationarity, because non-stationarity - a tendency for the variables to increase or decrease - would require first differencing to eliminate the likelihood of spurious relationships due to common trends. We use the Dickey-Fuller procedure (see Engle and Granger 1987) to test for

stationarity. All reversal rate time series are stationary (although other variables here are non-stationary). This means that reversal rates can be entered as levels because there is no clear pattern of rising or falling reversal rates in the five states over the period covered.

THE DATA

The data are from five Western intermediate courts, Division One of the Arizona Court of Appeals, the Colorado Court of Appeals, the New Mexico Court of Appeals, the Oregon Court of Appeals, and Division III of the Washington Courts of Appeals. These courts were selected as part of a study of procedures in the New Mexico and Washington Courts, with the other three courts, added as control courts because they are similar to the former in age, jurisdiction, and section of the country. The data were extracted from court docket sheets and, for some Washington data, from computer tapes. We sampled cases filed from 1971 thorough 1987 (Washington starts in 1972 and Colorado criminal in 1974), such that roughly one hundred criminal and one hundred civil cases were selected in each court for each (the sampling procedures are described in detail in the full project report available from the author). In all the sample consisted of 2,094 criminal and 1,966 civil appeals in Arizona, 1,457 and 2,016 for Colorado, 2,311 and 2,043 for New Mexico, 1,800 and 2,248 for Oregon, and 1,418 and 2,539 for Washington. Because some 1987 cases had not been decided at

the time of the research, data for reversals are missing for eighteen criminal cases in Colorado and six civil cases in both Arizona and Colorado. The data were aggregated according to court and year of filing, for a total sample size 81 for criminal cases and 84 for civil.

Reversal Rates.

Reversal rates are the percent of appeals decided on the merits that are reversed. The appeal outcomes were taken from the docket sheets. The criminal reversal rates are limited to appeals by defendants. Prosecution appeals comprise only a small portion of criminal appeals, but they are far more likely to be reversed than defendant appeals. (We were unable to identify all prosecution appeals in Washington before 1978; so reversal rates before that time include a few prosecution appeals.)

Outcomes are categorized as affirmances, reversals, and mixed results. Affirmances occur when the court decides totally in favor of the appellee; the ruling states either that the lower tribunal is affirmed or that the appeal is dismissed (the latter category is infrequent and does not include dismissals for lack of progress, which are not counted as decisions). Reversals are rulings that overrule the lower tribunal and either reverse the outcome or remand for a new hearing without qualification. Mixed decisions are a residual category, comprised of all other outcomes in appeals decided on

the merits. The major categories are decision that modify the trial court ruling or reverse in part and affirm in part. The reversals, as well as the mixed decisions, are often not complete victories for appellants, especially because a new trial might produce the same result; but the appellate court dockets do not provide enough information to determine the ultimate outcome.

We use two measures of reversal rates. The narrow measure is the percent of reversals, and the broad measure is the percent of reversals plus mixed results. The reversal rates are aggregated by court by year for criminal and civil appeals separately. Appendix A gives the yearly reversal rate figures for the five courts.

Time to Decision.

Delay is measured by the number of days from the notice of appeal to decision, obtained from court dockets. The decision is the initial decision, ignoring later decisions on rehearing or on remand from the supreme court. In Arizona the date of the notice of appeal is not available for civil cases and for criminal cases before 1974. For civil cases the date the appellant files a cost bond is used instead, since the cost bond is filed a few days after the notice of appeal. The cost bond date, however, was not available before 1976 and for approximately a fourth of the cases thereafter. For these cases, the notice of appeal was estimated to be 59 days before

the written record arrived, the average time from cost bond to record in cases with cost bond dates. For Arizona criminal cases without a date for the notice of appeal, the date is estimated to be 29 days before the record, the average time for cases with notice of appeal dates.

The analysis presented here does not separate delay measures for criminal and civil appeals because the two are interrelated; civil case delay reflects changing priorities given civil and criminal cases. Alternate analyses using civil delay produce the same results as the combined measure.

Filings Per Judge.

The filing volume is measured by the annual number of appeals filed per judge. Filings are total appeals filled, excluding discretionary writs, obtained from the court annual reports. The number of judges is the number of sitting full-time appellate judges, excluding vacancies. For Arizona, the filing and judge variables are for the full Court of Appeals, including the smaller Division Two, because cases are freely transferred between the divisions.

Decisions Without Published Opinions.

This variable is the percent of cases decided on the merits that did not have published opinions. For Oregon, it the portion of appeals decided without opinion (most appeals are decided without opinion, and all opinions written are

published). The other four courts issue opinions in all cases decided, and the variable is the portion decided with unpublished opinion.

RESULTS

The initial analysis involves Granger tests for each pair of variables - that is twelve regressions, four measures of reversal rate (narrow and broad definitions for criminal and civil appeals separately) times three organizational variables. Table 1 presents the F-Values for the one- and two-year lags of the independent (the full results of the regressions, including the lags of independent variables, are available upon request). Most of the possible causal connections listed above do not materialize; the F-Values are far from significant except for 1) the precedence of filings per judge to reversal rates in civil cases and 2) the precedence of decisions without published opinions to criminal reversal rates.

Because there is no evidence of reverse causation - reversal rates affecting organizational variables - it is possible to use normal regression analysis. This is presented in Table 2. Again, the only significant results are the impact of appeals per judge on civil reversal rates, and the impact of decisions without opinion on criminal reversal rates, although for the latter the results are significant only for the narrow definition of reversal rates.

There is strong evidence, therefore, that higher caseloads per judge lead to lower reversal rates in civil appeals. Ten more appeals per judge result in roughly three percentage points fewer reversals. As discussed above, there are several possible reasons for this relationship, and the analysis here does not allow one to distinguish between these possibilities.

There is less strong, but still substantial, evidence that reducing the portion of opinions published leads to lower reversal rates in criminal appeals, although the magnitude of the impact is slight. A ten percent increase in the percent decided without opinion results in about a one percent decrease in the narrow definition of reversal rates. As discussed above, a likely reason for this result is that more criminal appeals are unpublished merit because they are straightforward, and thus, more likely to be affirmed.

This analysis is preliminary. It should be supplemented by adding more organizational variables, such as the number of staff attorneys and law clerks, and the results should be tested with separate data sets.

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Table 1

Reversal Rates and Court Organization, Granger Tests

Organizational Variables	Reversal Rates: Criminal Narrow F-Value	Narrow Prob.	Criminal Broad F-Value	Broad Prob.	Civil Narrow F-Value	Narrow Prob.	Civil Broad F-Value	Broad Prob.
Filings per Judge								
As cause	.79	.46	.26	.77	5.28	.01	4.40	.02
As effect	.11	.90	.09	.92	.59	.56	.29	.75
Time to Decision								
As cause	.71	.50	.26	.77	2.02	.14	1.56	.22
As effect	.90	.41	.46	.63	.08	.92	.14	.87
Decisions Without Published Opinions								
As cause	3.69	.03	3.67	.03	1.41	.25	.60	.55
As effect	.68	.51	1.35	.27	.11	.90	.53	.59

Each F-Value represents the results of a separate Granger analysis, testing whether one variable "causes" another. For each procedural variable, the first line tests whether it "causes" reversal rates, and the second line tests whether it is "caused" by reversal rates. The F-Values are for the two lags of the "causing" variable. A significant F-Value (prob. less than .05) represents evidence that there is cause and effect.

Reversal rates and decisions without published opinions are percentages.

Table 2

Impact on Reversal Rates, Pooled Regression

Independent Variables	Dependent Variable: Reversal Rates							
	Criminal				Civil			
	Narrow		Broad		Narrow		Broad	
	Coef.	T-Ratio	Coef.	T-Ratio	Coef.	T-Ratio	Coef.	T-Ratio
Appeals per Judge	-.005	.38	-.011	.85	-.027	2.22*	-.031	2.31*
Time to Decision	-.003	.41	-.001	.14	-.001	.17	.001	.08
Decisions Without Pub. Opinions	-.081	2.60*	-.041	1.24	-.058	.92	-.004	.13
State Dummies F-Values	10.78**		13.45**		6.11**		4.16**	
Adjusted R-Square	.54		.57		.52		.60	
Degrees of Freedom	73		73		76		76	
Durbin-Watson	1.56		1.68		1.93		2.03	

Significance levels: * = .05, **.001

Appendix A REVERSAL RATES

Rrk - narrow reversal rate for defendant criminal appeals
Rrxk - broad reversal rate for defendant criminal appeals
Rrci - narrow reversal rate for civil appeals
Rrxci - broad reversal rate for civil appeals
Reversal rates are in percentages

	Year	Rrk	Rrxk	Rrci	Rrxci
Arizona	71	8.0	9.3	30.1	38.1
	72	12.9	12.9	28.5	32.3
	73	15.0	19.6	24.8	31.6
	74	12.2	15.8	29.3	37.1
	75	5.2	9.4	32.8	40.3
	76	7.4	12.8	27.5	32.8
	77	2.3	3.4	29.3	36.1
	78	4.3	5.3	25.0	30.2
	79	8.9	11.9	21.8	29.1
	80	5.6	10.0	28.3	31.9
	81	4.2	10.0	24.0	32.2
	82	6.5	9.8	26.2	37.3
	83	6.2	10.3	32.4	39.6
	84	6.8	8.9	23.6	32.1
	85	10.1	13.8	31.2	41.9
	86	7.6	9.8	27.4	36.8
	87	4.9	7.1	27.3	35.1
Colorado	71	..	..	27.5	31.9
	72	..	..	21.4	30.1
	73	..	..	26.2	36.1
	74	20.7	22.0	19.0	31.0
	75	12.3	19.8	26.9	38.5
	76	20.2	25.5	22.6	29.5
	77	18.6	21.6	24.3	34.0
	78	20.7	24.8	17.6	32.1
	79	16.2	20.2	20.9	30.0
	80	14.5	16.4	17.2	25.9
	81	17.1	20.3	27.0	37.7
	82	11.2	17.2	20.0	25.4
	83	21.1	28.4	27.7	41.2
	84	13.1	17.8	21.8	30.8
	85	14.5	23.4	27.8	34.9
	86	14.7	17.4	20.7	35.1
	87	12.1	22.0	19.1	30.9

	Year	Rrk	Rrxk	Rrci	Rrxci
New Mexico	71	22.4	23.7	37.0	45.7
	72	18.4	20.1	38.1	50.0
	73	25.0	27.9	24.4	37.2
	74	22.4	24.2	32.1	37.6
	75	14.1	18.4	35.0	42.9
	76	17.2	21.5	39.1	47.1
	77	15.6	17.7	38.2	44.7
	78	15.2	19.9	29.7	35.7
	79	22.5	24.6	34.9	45.0
	80	24.2	27.3	38.7	47.9
	81	22.5	22.5	32.4	39.2
	82	16.5	23.9	24.8	33.7
	83	16.7	21.9	25.0	36.1
	84	21.0	25.0	30.8	42.5
	85	15.0	22.0	30.4	40.6
	86	7.5	13.4	17.2	27.9
	87	9.9	17.1	24.5	32.7
Oregon	71	5.9	7.8	21.9	31.5
	72	16.0	18.7	22.2	25.3
	73	6.6	10.5	25.5	27.4
	74	1.8	3.6	23.1	24.6
	75	6.5	7.5	21.0	23.9
	76	7.8	9.4	18.7	20.9
	77	13.7	17.1	14.4	18.6
	78	21.5	23.1	24.0	27.3
	79	10.6	11.4	23.8	27.3
	80	7.3	8.9	15.9	17.5
	81	9.9	12.1	24.6	28.3
	82	7.7	8.7	21.6	27.6
	83	4.7	7.9	13.7	16.2
	84	7.7	8.5	18.0	24.5
	85	4.9	6.9	11.6	15.7
	86	6.5	6.5	11.5	12.1
	87	3.4	6.1	10.1	12.3
Washington	72	22.6	30.2	32.3	40.9
	73	16.3	18.4	22.8	27.2
	74	9.5	12.7	18.8	24.8
	75	8.6	8.6	25.2	34.6
	76	10.3	12.8	22.1	27.9
	77	10.4	14.2	26.2	37.6
	78	13.8	17.0	20.5	31.1
	79	19.4	20.8	29.1	40.8
	80	21.3	26.2	21.7	36.7
	81	16.7	18.7	25.6	34.3
	82	10.2	13.0	22.8	31.2
	83	16.5	18.3	23.4	33.5
	84	12.2	14.3	20.6	30.3
	85	20.6	25.8	21.1	31.9
	86	19.8	21.6	25.4	35.4
	87	11.8	15.7	21.3	34.4