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COMPARING COURT PRODUCTIVITY

J Doyle

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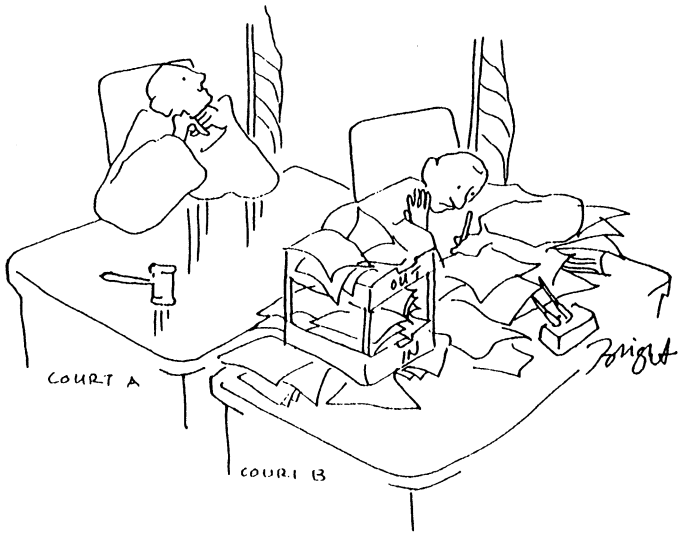
The measurement of court productivity has become a major issue as the demands on the courts to achieve more efficiency have increased.

This article examines some issues relating to the measurement of the comparative productivity in Californian superior courts.

Comparing court productivity

by Joe Doyle

The weighted caseload system assigns judges to courts mainly on the basis of case volume, but a new variation recognizes the importance of court productivity, too.



Over the past 11 years, judicial systems have developed a method to determine how many judges they need in particular jurisdictions. It's called the weighted caseload system and it is being used in California, New Jersey, Florida, Kentucky, Alaska, Washington and the federal district courts.

The system makes it possible to estimate how much time a specific court needs to finish its caseload (based on the average time required to handle each kind of case). Administrators can divide the estimated total time the annual caseload requires by the average amount of time judges work in a year. The result is the required number of judges needed to complete the anticipated annual caseload. They compare this with the number of judges on hand to see if more are needed.

But the weighted caseload system ignores a crucial aspect of reality: different courts do not work at the same speed—the systemwide average.

What we want to do is to show the limitations of using *systemwide* average weights (statewide or nationwide) to estimate the need for judges in localities. Then we want to discuss a way to measure court productivity—one which determines how much time a court would require, working at its *own speed*, to complete a "standard" caseload. In this way, we could find out how many judges each court needs to do the *same* job—and then we can begin to search for factors to explain differences among courts in their productivity.

But first, we will recount the history of the weighted caseload system in California to show how it has evolved.

The California system

Before the development of a weighted caseload system, California sometimes based the need for additional judges on a ratio of population to judges. Better estimates were developed from a ratio of filings (a measure of work inflow) to judges. But the state later recognized that filings for some types of proceedings take longer to complete than others. Interviews with experts, clerks, judges and court administrators revealed how much time different proceedings required.

The resulting times for each type of proceeding were called weights and were used in conjunction with an estimate of the annual time available for trial work for a judge, called a judge year value. To estimate the number of judges needed to dispose of a given amount of work, the filings for each type of proceeding were multiplied by their corresponding weights, summed and divided by the judge-year value.

In 1966-67, California assigned weights to cases in superior courts according to estimates of trial time made by experts. In 1967-68 the basis for the weights was changed to bench time in a survey of 11 courts. In 1969 a time study was conducted and special weights were established for particular types of proceedings for several individual courts in addition to the statewide weights. In 1970-71 two sets of weights were adopted, one statewide and the other for the largest metropolitan court.

The basis for the weights was shifted to *case-related* time in 1971-72 (20 courts were surveyed). The judge-year value became the product of the average case related time per day per judge (found during the survey) multiplied by the number of days available in a year for case-related work. A survey in 1973 of 19 courts made the basis for the weight the average time to process a case to disposition. In 1976, a 32-court survey produced a weight defined as the observed time per reported filing (or disposition).

In the early phases of the weighted caseload method, the concepts and applications were very simple—the estimates from experts, for example. Then the concepts, methods and applications became more complex as more data were gathered during court surveys. Each type of proceeding was divided into its component parts and an average time was developed for each part. The average time for each part was multiplied by the relative frequency that the component part occurred to obtain a partial disposition weight. The partial disposition weights were summed to obtain the *total* disposition weight. The disposition weights were further adjusted by a disposition-to-filing ratio to give recognition to the fact that not all matters filed get disposed of.

Over time sizable changes in the weights were observed. Sometimes different courts would participate in surveys and, of course, the rules of court and the laws changed in ways that affected the speed with which a case was completed. The cost and value of the detail generated by a complex weighted caseload methodology came into question. Ultimately, the concepts of the average time and frequency of cases were abandoned in favor of a simple ratio of observed time to filings (or dispositions) during the survey

period. This simplification made it easier to collect the data in the field and more courts were willing to participate.

The problem with averages

Almost all weighted caseload systems use average *statewide* or *nationwide* weights. But differences do exist among courts within the same judicial system even though they apply the same laws and have the same rules of court and central court administration. It is simply assumed that average weights can be applied to all the courts.

It is difficult to analyze how similar or dissimilar the courts are. One court might have a higher weight (in a survey) for one proceeding but a lower weight for another. And the size and mix of caseloads are different. These have been the barriers which prevented the exploration of the magnitude and the consequences of differences of *court specific* weights from the *statewide average* weights.

At this point, we want to propose a simplified perspective, using the 1976 weighted caseload survey of 32 superior courts in California. For brevity and clarity of presentation, we will focus on only eight courts and we will use disposition weights instead of filing weights. These shortcuts will not substantially change the outcome of the findings. Although the data are real, we assigned the courts fictitious names in this paper.

Table 1
Development of a STANDARD CASELOAD

Type of Proceeding*	Superior Court Statewide Filings 1975-76		Standard Caseload
	Number	Percent	percent times 30,000
Total	658,167	100.00	30,000
Family Law	168,887	25.66	7,698
Juvenile Delinquency	93,864	14.26	4,278
Other Civil Complaints	87,405	13.28	3,984
Personal Injury and Property Damage	80,341	12.21	3,663
Other Civil Petitions	74,369	11.30	3,390
Probate	62,590	9.51	2,853
Criminal	54,906	8.34	2,502
Juvenile Dependency	14,053	2.14	642
Appeals	11,616	1.76	528
Mental Health	6,514	0.99	297
Eminent Domain	3,622	0.55	165

*Habeas Corpus filings omitted.

The standard caseload

Suppose the courts had the same size of workload and even the same mix of business by type of proceeding. Such a circumstance can be created, on paper, to more easily compare the courts. One way to create such a standard caseload is to apply the same profile of business that existed for statewide superior court filings in 1975-76.

Table 1 shows the statewide filings by type of proceeding for fiscal year 1975-76 and a distribution of cases by percentage. A convenient size for the standard caseload was arbitrarily selected at 30,000 because most of these courts can handle at least that much work in a year. The percent distribution of 1975-76 filings by type of proceeding is then applied to the 30,000 caseload and the standard caseload is thus created as shown in the right hand column of Table 1.

Table 2 presents the disposition weights of the eight courts and the statewide weights. The next step is to apply the standard caseload to each court's set of disposition weights. This will answer the basic question of how long it takes to complete the standard caseload.

Table 3
Estimated time to process the *standard caseload* using court specific disposition weights.

Jurisdiction	Time to Process Standard Caseload		
	In Minutes	In Hours	In Judge Years
Red	2,332,107	38,868	31.5
Amber	2,570,724	42,845	34.7
Brown	2,917,578	48,626	39.4
Statewide	3,045,666	50,761	41.2
Yellow	3,098,007	51,633	41.9
Green	3,117,399	51,957	42.1
Aqua	3,484,980	58,083	47.1
Blue	3,599,544	59,992	48.6
Purple	4,324,452	72,074	58.4

Table 3 shows how long it takes each court to process the standard caseload using its own specific disposition weights. The time to process the standard caseload is given in minutes, hours and equivalent judge-years (minutes divided by 74,000—a judge-year value). The fastest court, Red, can process the standard caseload in 31.5 judge years. This is 26.9 judge-years faster than the slowest court, Purple.

The number of judge years to complete the standard caseload can also be thought of as judges needed to complete the standard caseload in one year. The time to complete the standard caseload or the number of judges needed to complete the standard caseload in one year is the measure of court productivity we've been seeking.

Estimating needs

To estimate how many judges will be needed to process a given level of work, the *statewide* weights are applied to the work inflow of the specific court and divided by the judge year value (74,000 minutes here). Table 4 creates a workload for each of the eight courts that follows the profile of filings in each court but is the same size (30,000) as the standard caseload, which also appears on Table 4. Column 2 of Table 5 shows how many judges would be allowed to each court to process the 30,000 cases with the type of proceeding mix (court specific mix) peculiar to each court.

Table 2
Disposition weights* in minutes per disposition

Type of Proceeding	Statewide Weights	Green	Aqua	Brown	Yellow	Purple	Red	Blue	Amber
Criminal	318	457	320	422	396	410	210	252	294
Other Civil Complaints	232	155	294	196	175	477	184	232	172
Eminent Domain	177	78	211	380	63	60	38	—	362
Juvenile Dependency	102	68	188	79	87	99	56	115	74
Personal Injury and Property Damage	101	61	89	61	137	74	134	202	103
Mental Health	71	628	106	129	—	73	47	61	64
Juvenile Delinquency	70	101	94	44	64	92	35	147	46
Appeals	59	33	76	37	14	31	56	108	17
Family Law	50	41	58	37	62	63	33	40	39
Probate	27	20	20	64	15	35	22	51	29
Other Civil Petitions	14	20	16	9	12	11	9	17	17

*No weights were calculated if either no time or no dispositions were reported.

Table 4
Comparison of standard caseload of 30,000[1] with caseloads the same size [2] in the eight largest superior courts.

Type of Proceeding	Standard Caseload	Green	Aqua	Brown	Yellow	Purple	Red	Blue	Amber
Total	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Family Law	7,698	8,220	7,149	8,553	7,632	7,869	8,583	5,229	8,337
Juvenile Delinquency	4,278	4,197	4,113	6,300	4,641	3,951	3,903	2,958	3,564
Other Civil Complaints	3,984	4,494	3,711	3,654	2,946	1,890	5,262	4,722	3,648
Personal Injury and Property Damage	3,663	3,552	5,262	3,318	3,729	2,166	1,884	6,192	2,706
Other Civil Petitions	3,390	1,887	2,832	3,924	4,695	6,819	3,273	2,229	4,953
Probate	2,853	3,576	2,745	1,836	2,271	2,718	2,736	4,296	2,019
Criminal	2,502	2,547	2,853	1,167	2,460	2,643	2,625	2,985	2,631
Juvenile Dependency	642	807	447	444	990	936	708	420	396
Appeals	528	627	579	573	405	369	405	615	579
Mental Health	297	45	141	96	84	273	510	324	1,104
Eminent Domain	165	48	168	135	147	366	111	30	63

[1] Based on a statewide percent distribution of filings by type of proceeding.
[2] Based on a percent distribution of filings by type of proceeding in each court.

Now we apply the court-specific weights (Table 2) to the court-specific mix of workload peculiar to each court (Table 4) and divide by the judge-year value. The result is the length of time or the number of judges it would actually take to dispose of the 30,000 cases in each court. These figures are shown in column 3 of Table 5. Since the weights and the profile of the workload are both based on actual experience in the court, we have a good mirror of the actual operating conditions within each court, except for the artificial size of the workload.

Comparing the three methods

Table 5 compares the three methods for measuring the time to process the caseloads or the number of judges to process the caseload. Column 1 (Productivity) shows the time needed to process the standard caseload. Column 2 (Judgeship Needs Basis) shows the number of positions which would be "allowed" to process the caseload using statewide weights, the usual procedure in weighted caseload methodology. Column 3 indicates the judicial manpower the court would *actually* use to dispose of the caseload, working at its own rate.

Column 4 shows the difference between how many judges would be allowed (using statewide weights) and how many would actually be needed (using each court's own weights) to complete the caseload. For example, the Red court would be allowed 43.5 judges to complete the caseload but it would only need 32.1 to do the work. The Red court could do the caseload with 11.4 fewer judges than allowed. At the other extreme, the Purple Court needs 10.6 more judicial positions to process the caseload than the statewide weights would allow.

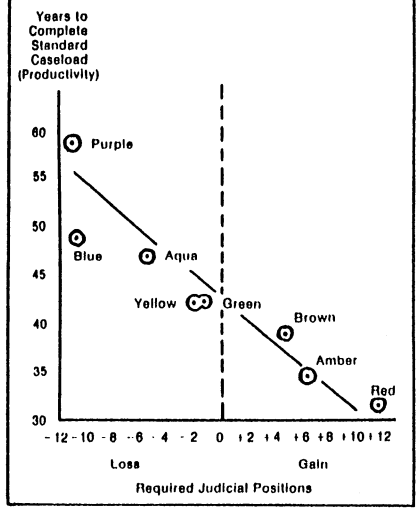
Column 5 reports the difference between columns 1 and 3 and shows the disparity between the standard caseload and the caseload which follows the mix of proceedings for each court. It is an index of the degree to which the standard caseload distorts judicial manpower needed in the actual operating basis.

For example, the Red Court would need just about the same judicial manpower either for the standard caseload or under actual operating basis to complete the caseload, only 0.6 of a judicial position different. The Purple Court would need 13.5 more judges to finish the standard caseload than they would to finish their own caseload of the same size.

Table 5
Analysis of gain/loss from using statewide weights and determination of effect on productivity measure of difference in court specific proceeding mix from the standard caseload.

Jurisdiction	Methods for Measuring Judge Years to Process Caseload			Gain (+) or Loss (−) from using Statewide Weights	Effect on Productivity of difference in court specific mix from Standard Caseload
	Standard Caseload Court Specific Weights	Court Specific Mix Statewide Weights	Court Specific Mix Court Specific Weights		
	Productivity	Judgeship Needs Basis	Actual Operating Basis	(2) minus (3)	(1) minus (3)
	(1)	(2)	(3)	(4)	(5)
Red	31.5	43.5	32.1	+11.4	− 0.6
Amber	34.7	39.3	33.0	+ 6.3	+ 1.7
Brown	39.4	35.6	30.8	+ 4.8	+ 8.6
Yellow	41.9	38.3	40.0	− 1.7	+ 1.9
Green	42.1	42.8	41.3	− 1.5	+ 0.8
Aqua	47.1	42.9	48.0	− 5.1	− 0.9
Blue	48.6	45.9	56.1	−10.2	− 7.5
Purple	58.4	34.3	44.9	−10.6	+13.5

Figure 1
Scattergram of relation between productivity and loss or gain in required judicial positions, statewide weights



The distortion that results from the standard caseload is significant in the Brown, Blue and Purple Courts. Also significant from Table 5 is the differential way that statewide weights either reward some courts (Red, Amber and Brown) or penalize others (Aqua, Blue and Purple).

But regardless of the distortion of the standard caseload, there is an excellent statistical relationship ($r = -.94$) between productivity (column 1) and gain or loss from using statewide weights (column 4). Figure 1 dramatizes the relationship between productivity and gain or loss from using statewide weights.

Conclusion

Nothing has been said about "justice" in all these comparisons. Is the fastest court the best or the worst? Is it the fairest or the least just? Or are all the courts equally just? It's difficult to imagine a statistical study that could answer such questions.

This study does not answer them. What it does show is that considerable variation exists among the courts in the rate at which they process cases. The consequences of using average statewide weights, given this variability, may result in a serious misallocation of manpower.

How much of the variability in productivity among the courts is justified? By using productivity (time to complete the standard caseload) as the dependent variable, we can seek independent variables that can explain the variability in productivity. Some of these independent variables which are discovered to be significantly related to productivity may be under the control of the individual courts, but others may not. Future methodology for estimating judgeship needs may make allowance for factors which affect a court's productivity but are beyond court control.[1]

The conclusion is not that statewide weights should be discontinued and replaced with court-specific weights. This would be impossible because not all courts participate in weighted caseload studies. Even if they did, such a recommendation would be reckless until there is a better understanding of why productivity among the courts varies to such a great extent.

It would be unfortunate to create the impression that the only concern is with the speed with which cases are processed. The primary concern is with justice. But one of the elements of justice is the speed with which matters are adjudicated (justice delayed is justice denied). Because we have no way to measure the other elements of justice, we should not decry the capability of measuring this one, though we should recognize the limitations of describing judicial activity in terms of speed alone. ☐

1. Examples of such factors are: pressure of work inflow, size of court, prevalence of attorneys, population, judicial age or experience and criminal pleas of guilty.

JOE DOYLE is Senior Statistician for the California Administrative Office of the Courts. The opinions expressed are his own and not necessarily those of the Administrative Office or the Judicial Council of California.