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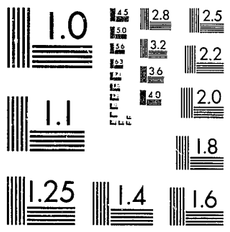

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A CONCEPTUAL FRAMEWORK FOR ALLOCATING RESOURCES IN THE PROSECUTOR'S OFFICE

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A Paper Presented to the American Society of Public Administration 1980 Meeting in San Francisco, CA, April 13-16, 1980

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Introduction.

The early part of the 1970's was characterized by a large increase in the services delivered by state and local government. In fact, looking at the total government sector share of Gross National Product, those local governments accounted for the largest share of the increase. This was in large part made possible by revenue sharing and other block grants from the federal government.

While services increased substantially, the costs of providing those services also rose. At first the rise was quite moderate but recently has accelerated with the general rise in the price level. The proposed budget cuts for FY 1981 at the federal level including major cuts in revenue-sharing, CETA, and anti-recession funds will certainly aggravate the pressure on state and local governments to reduce services or to improve the efficiency of delivering those services. It is unlikely that increases in taxes will be voted by taxpayers to compensate for these changes given the fact that real incomes are falling i.e. they have less available to make purchases from the private sector in general.

Still there will be enormous pressure to maintain current levels of service despite the lower real income of governments. Therefore, it is incumbent on all public officials to utilize every conceivable technique to reduce costs and/or improve productivity. The Research and Policy Committee of the Committee for Economic Development indicated that this process will not only be slow but will also be difficult.[1]

"Improving government productivity is not a quick solution to immediate financial problems or an antidote to a weak taxbase. It is a long term task that requires continued attention to every phase of government operations. There is no single correct approach. Efforts to improve government productivity must recognize the interplay between broad policy considerations and detailed administrative matters, between technology and people, and between local perogatives and national responsibilities."

This is a large order to fill by any measure however the research which has been underway for sometime in the area of prosecution management is attempting to address these fundamental issues in a way which will prove helpful to practitioners. In a recent paper Joan Jacoby terms this new era the "Age of Reason" for local prosecutors.[2] She describes the dimensions of the problem and suggests the development of rational criteria by which cases could be disposed of with reference to the discretion of the prosecutor and the resources at his disposal. In this paper we will attempt to explore the choices open to the prosecutor and how those choices can be made in order to optimize output with a budget constraint. The approach will blend economic theory and a good dose of practical experience in how those decisions are actually made.

Definitions.

Inevitably when an issue such as productivity is raised, its counterpart, performance measurement, also surfaces. Productivity is generally described as output per man-hour. Since it is commonly applied in the manufacturing sector the output is generally the value of something physical. This immediately poses a problem for the measurement of productivity in the prosecutor's office.

Our first task is to describe what is meant by output. We are concerned with two primary elements of output, quantity and quality. For our purposes then output is the number of units of output with specified quality characteristics per unit time. The importance of each aspect of this definition can be seen by thinking of a court case as being a basic unit, the disposition being a quality characteristic and the amount of time it took to resolve that case as the last component. Clearly, output is more difficult to define in this case than for a gallon of water delivered in the local water system or a ton of garbage collected. It is extremely important that we attempt to deal with all aspects of the output of services in determing productivity.

In the criminal justice system the issue is further complicated by the fact that different yardsticks are used by its components. Returning once again to our basic definition, the quality of output must be clearly measured and standardized. The disposition of a case arrived at through plea negotiation will still be a unit of output but the quality of that output may be better than, worse than, or the same as that which would have been achieved by trial. This also does not

account for the cost differentials which are associated with each process.

The third element in our definition of output is time. This has always been a major element in the criminal justice system. Certainly the State and the defendant are both concerned not only with disposition but with the time needed to accomplish it. The same disposition achieved for a case in 15 days is probably not the same product as a similar case which is disposed of with the same result after 60 days.

One further problem must be considered before turning to some models. The quality of a given disposition will vary from individual to individual. The judge, the police officer, and the prosecutor may all have a different view of the quality of the outcome in a given case. The prosecutor can consider the output successful if he gets the case to trial in some cases. In other instances he is only concerned with whether the defendant is convicted. Finally, he may feel successful only if the defendant gets a long prison term. Clearly, in order to measure performance and productivity one must know ultimately what output is being optimized. That is the crucial question and one which will be addressed in the balance of the paper.

A Simple Model.

The preceding discussion suggests that the simplest definition for output is a disposition. For the moment, we will consider only two possible ways of achieving a disposition; plea or trial. We thus rule out diversion,screening, and dismissals. The prosecutor is presented with cases by the police and he must dispose of them by one of those production processes. The first assumption which is made is that the prosecutor is trying to optimize some type of output and that he is rational. Second, it is assumed that a disposition is either successful or not. Very simply then Q, output, is equal to the sum of dispositions achieved by plea, P, and by trial, T. This is shown in equation 1.

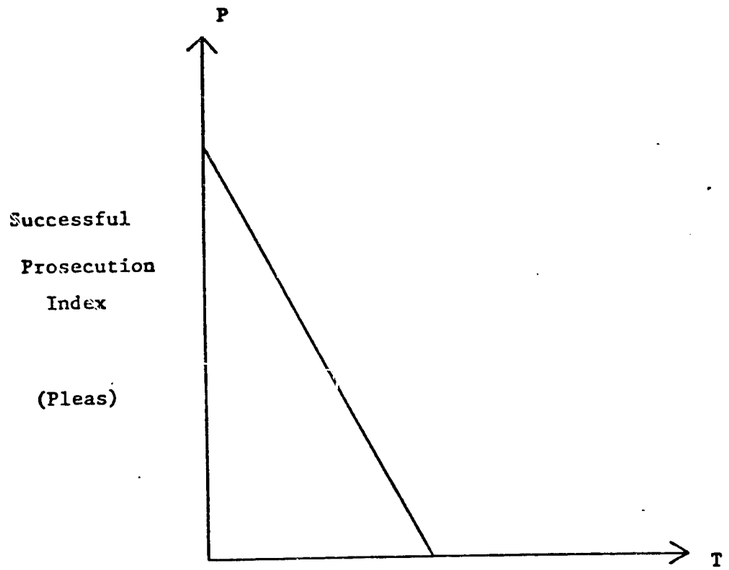
$$(1) \quad Q = P + T$$

Now in Figure 1 we can describe a situation which indicates the maximum number of cases which could be disposed of by plea if all resources were used in that fashion. Conversely, all cases could be disposed by trial. Implicit in this analysis is that the disposition is of constant quality, in this case, successful prosecution. The line describes all of the possible combinations of pleas and trials which could be produced by the prosecutor if he used his resources in the most "technically efficient" way. If he is operating at some combination to the left of the line he either has excess capacity (he can handle more cases with existing resources) or he is inefficient in disposing of his workload.

The slope of the line is greater than one indicating the simple fact that it costs more to go to trial then to plead a case. Still it should be clear that even if the slope is depicting the right cost ratio it does not describe the true situation. First, there will be cases which can never be successfully prosecuted at trial for a variety of reasons. Second, some cases will never plead. Finally,

FIGURE 1

Production Possibilities Frontier: Model 1



not all the resources in the office are equally effective at negotiation and trial. Thus the more likely shape of the "output frontier" is one which is concave to the origin and is shown in figure 2. As described in figure 2, the prosecutor would like to be "technically efficient" i.e. operating on the curve and he would like to choose the most efficient place to operate on the curve. If we know the ratio of the cost of pleas versus trial then the optimum is selected by the tangency between the curve and that cost ratio.

The major problem with this analysis is that the prosecutor must know his "production function" for trials and pleas. A production function describes the relationship between inputs and outputs. Examples of these are shown in equations 2 and 3:

(2) $P = aSA + bJA + cIN + dCL$;

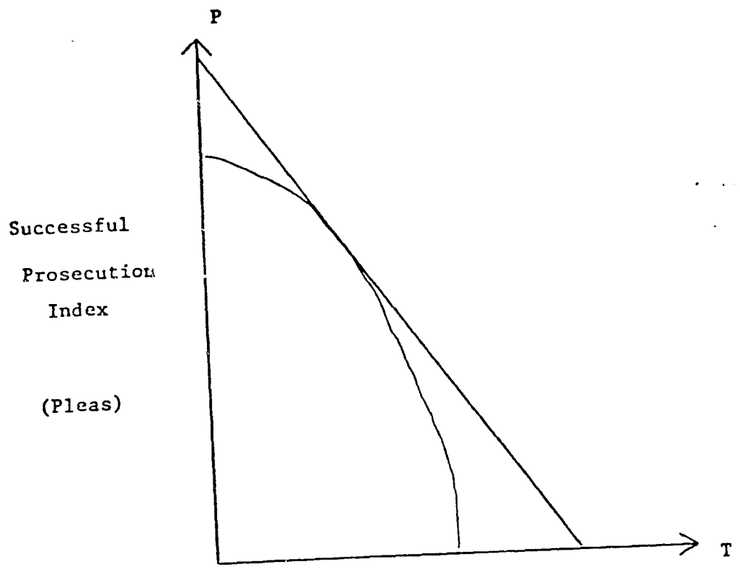
(3) $T = eSA + fJA + gIN + hCL$.

The first equation describes how the use of four inputs namely, senior attorney hours(SA), junior attorney hours(JA), investigator hours(IN), and clerical hours(CL) are used to produce pleas. The coefficients a,b,c,d are the parameters which determine how valuable each resource is in producing a successful outcome. A similar statement can be made for the second equation except that the output is successful disposition at trial. The coefficients e,f,g,h will in all likelihood be different than their counterparts in equation 3.

What should be clear is that there are constraints on this system. The number of hours to be used in pleading cases and trial for senior attorneys cannot exceed the total amount available.

FIGURE 2

Production possibilities Frontier: Model 2



This will hold for all other inputs as well. Further, the office budget cannot exceed the amount of the resources to be used times their price. This sets up a situation where the prosecutor must consider the best mix of resources to produce the set of dispositions which he desires.

Thus far in the analysis we have only brushed on the idea of cost. In its simplest form we use the average cost of moving a case from one stage in the process to the next. These costs accumulate for the case depending on its point of exit. We know form work which was done in Kalamazoo,MI and Kansas City,MO that the costs will differ by type of crime as well.[3,4] But these studies also support the hypothesis that the cost work can be done without a great deal of difficulty. Work is also being done in Des Moines,IW which will shed additional light on this subject.

The prosecutor's job as a public administrator is then to optimize output (successful dispositions) constrained by the fact that he has a budget and must understand his production processes in order to accomplish that fact. This analysis also points out the difficulty in cross-section studies of prosecutor performance. First, the production functions may not be the same in all offices. The laws and other environmental factors are not the same. Second, some types of resources are easier to obtain in different jurisdictions. It may, for example, be easier to hire attorneys than paralegals or investigators who can be much more cost-effective in doing some tasks. Third, the tools which the staff has to work with varies substantially. In some offices you will find attorneys who give

dictation directly to secretaries and type many of their own briefs. In contrast, the best offices recognize that an attorney should dictate only to a machine and will never use a typewriter.

Finally, it is absolutely crucial that one understands what the output for each office is. It is not clear that successfully prosecuting a case has a universal meaning for identical cases.

Some Applications.

In figure 3 we show a situation where the prosecutor is constrained in the number of trials permitted by the court capacity. In this case the prosecutor can prepare more cases for trial than the courts can handle over a fixed period of time. The implictions of this situation are that not all of the possibilities curve is even relevant and that any attempt to exceed the capacity of the court will increase the backlog for the next time period. This leads to the conclusion that to introduce a no plea policy in a jurisdiction where court capacity is already strained will inevitably lead to increased backlog and eventually speedy trial and witness problems among others. This is illustrated graphically in figure 4. The input in time period 1 is simply cases presented by the police. Suppose our prosecutor tries to operate with a policy which produces more trials than the capacity of the court. Those which are not disposed in time period 1 must be handled in time period 2. Thus input in that time period is backlog + new cases. Since those previous cases are committed to trial the possibilities curve for new cases is even further truncated, that is effective trial capacity in time period 2 is reduced even further. Obviously, the prosecutor will not be able

FIGURE 3

Production Possibilities Frontier: Court Capacity Model

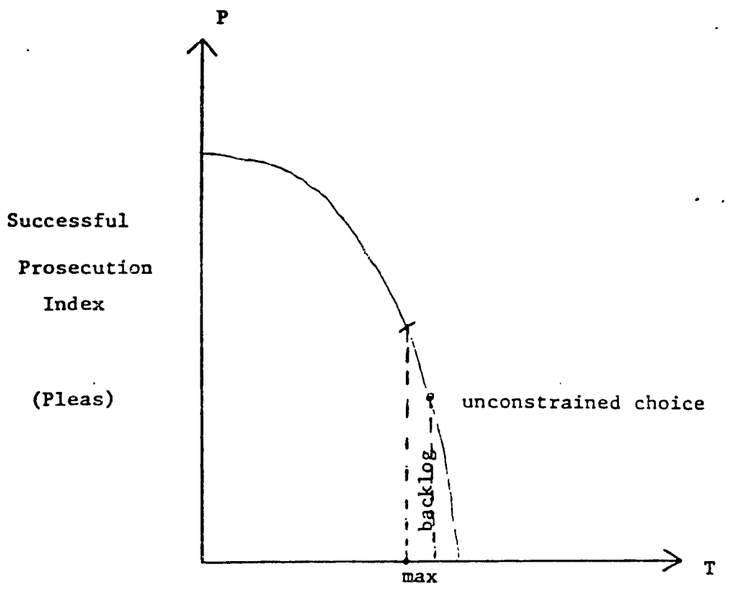
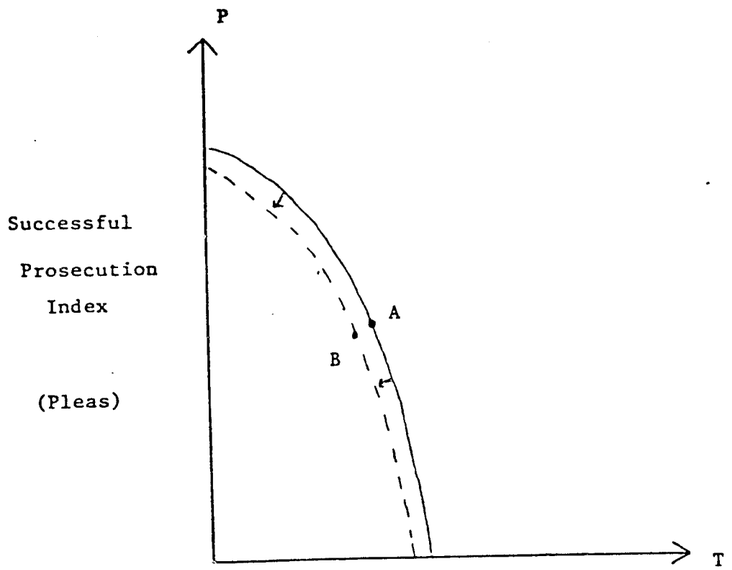


FIGURE 4

Production Possibilities Frontier: Budget Cut



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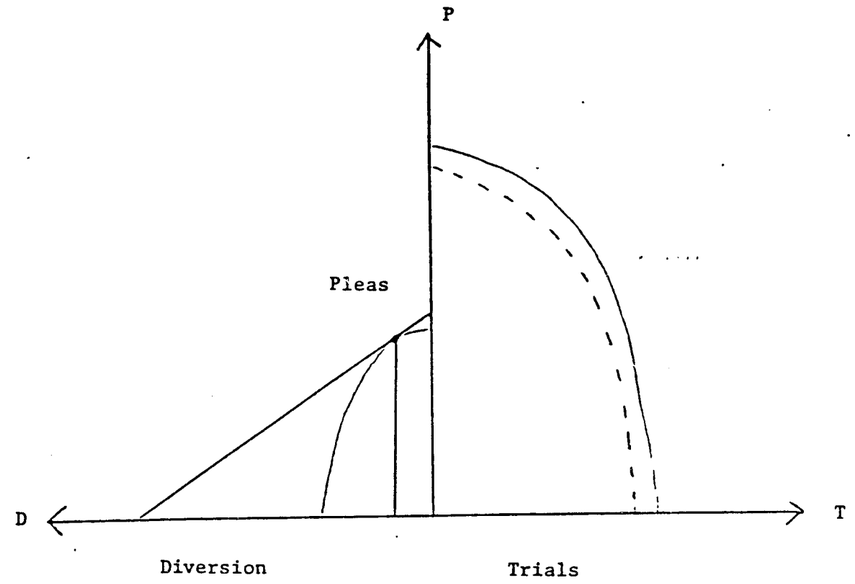
to continue to operate outside the bounds of his possibilities curve indefinitely unless further resources are found for the court. Clearly, these two components of the system must be in balance.

Figure 5 illustrates another problem. As budgets are reduced in real terms the possibilities curve shifts inward to the left reflecting for the resources available fewer cases can be disposed of successfully. This of course assumes that all efficiencies available have been undertaken. Assuming no increase in new cases then we would expect the backlog to continue to build or we must reduce the quality of the disposition. This would result in a change in the two production functions (for trials and pleas) and a new production possibilities frontier.

The other option which is always open to the prosecutor to prevent a reduction in the quality of dispositions or the increase in backlog is the development of another dispositional route for some of these cases. The use of such programs as prosecutor's probation, drug and alcohol diversion, and community arbitration are part of another production process which can dispose of cases successfully without the full cost of an adjudicated settlement. In terms of the analysis presented thus far, a third production function would be required and there would be a second production possibilities curve describing the trade-offs between the plea and the non-adjudicated disposition. Since this decision logically precedes the plea-trial decision the effect is to reduce the number of resources required at that later stage and thus to compensate for the budget reduction without increasing backlog or decreasing

Figure 5

Production Possibilities Frontier: Diversion model



quality. The optimum position for plea-diversion once again will depend on their relative costs.

The last area to consider is the intake function. To this point we have taken the input side as given. Clearly, the prosecutor ultimately controls the intake process, that is the number of cases he will permit in the system. One of the options open to the prosecutor who has exhausted his resources for disposition whether by diversion, plea or trial is simply to screen cases out that he might consider in the absence of a resource constraint. Since no other processing is required after screening that is usually the cheapest way of disposing of a case given once again that the disposition can be considered successful. This activity implicitly requires the screening assistant to estimate the likely dispositional route if the case goes into the system. He must be aware that the sum of the number of cases allowed in the system times the probability that each one will go to trial ultimately should not exceed trial capacity. No where is this decision more in evidence than in places such as New Orleans and Des Moines where trial sufficiency policies are followed.

The interdependence of elements of the system is also clearly in evidence again. It makes no sense to enhance the capability of the police to apprehend criminals if the capacity of the prosecutor to process them successfully is exceeded. The cases will either be screened out, the backlog will increase, or the quality of dispositions will decline.

To come full circle, the prosecutor is presented with a caseload which he can dispose of in a variety of ways. Given that he knows his cost and production functions, then he attempts to maximize his output of a given quality during a specific time period. He must look at each case as it comes in and consider the following:

(1) what would be a successful outcome for the prosecutor in this case;

(2) what route is most likely to get the prosecutor to that optimum;

(3) what are the costs of moving toward that optimum route compared to the degree of success and the cost of taking the next alternative;

(4) given the route that achieves an optimum outcome what is the probability that the optimum will occur.

Logically then the output weighted by the probability times the cost of proceeding to the next stage will suggest some point of diminishing returns. The marginal increase in the quality of the disposition is less than the cost of taking it to the next stage. That suggests what the "recommended dispositional route" should be.

In terms of process steps all cases have the cost of screening. If the case enters the system it will have the costs of indictment or diversion. If it is pled or goes to trial the costs through arraignment must be paid. Finally if the case actually goes through the trial preparation stage those costs must be paid. At some point in the process using a simple definition of success the balance is tipped. To expend funds after that is not rational. For the more complex definitions of success there will be marginal improvements since the output is scaled and not a zero-one set.

The importance of this particular analysis is that we must understand whether the prosecutor views success in simple or complex ways. He may choose to manage the caseload in quite different ways depending on this criteria. Invariably, complex definitions of success are related to sanctions. Certainly the sanction that is likely to be achieved at trial will be different than that achieved by screening the case out of the system. If there is no difference, that is, a case which should have been screened out goes to trial the differential cost for achieving the same result is high. In the typical case which is pled the prosecutor may get no higher sanction if he goes to trial than if he had pled it. Knowing that he will not generally go to trial. There will of course be many cases where the required sanctions can only be obtained through a trial or where the defendant will be unwilling to plead to the charges because of the sanctions which would be imposed.

If the prosecutor wished to quantify this process, he would assign the optimum sanction which he felt should apply to the case. The achievement of that optimum would receive a weight of 1 in the output measure. If only half of the optimum is achieved then the weight of .5 would be added to the output for the time period. The

sanction itself may suggest the recommended dispositional route if the optimum can be achieved only by going to a particular method of disposition. If the optimum can be achieved by diversion then it does not make sense to continue to process the case for plea or trial. If we think of a continuum for a case where the achieved sanction was 10%,30%,80%,and 100% for screening,diversion,plea and trial respectively, the rational prosecutor will weigh the marginal increase in the cost against the marginal gain in sanction. Other patterns might include 90%,95%,100%,100% indicating that 90% of the optimum will be achieved by screening the case and very little benefit can be gained by continuing. Further,a pattern such as 0%,5%,60%,100% would suggest a different strategy entirely.

This discussion also points out another dependency in the system in that the sanction pursued by the prosecutor may be in conflict with the ability of the prisons to deal with the offenders. If prison time is a major portion of the reason for going to trial yet the prisons are full, it may not pay the prosecutor to pursue the trial stage. In any event the quantification of the prosecutor's choice set is a useful exercise for those who wish to more effectively manage those resources.

Summary.

We have attempted to subject the decision framework of the prosecutor to economic analysis and by so doing to suggest some of the potential problems with which he will have to come to grips in the "Age of Reason". The analysis began with a simple definition of output and two production processes. The idea of cost was introduced as were the various constraints on the system. We looked at the impact of constraints on trial capacity and the result of that problem. At this point we introduced the first of several options open to the prosecutor including backlog and reduction of the quality of the output. Options were then explored which opened a new production function for non-adjudicated dispositions. Finally, the option of increased case screening was introduced as a method by which the prosecutor could continue to operate within his possibilities curve given problems with court capacity or reduced budgets.

The reader should come away with several ideas from this paper:

(1) the prosecutor needs to know much more about the production process in his office;

(2) the prosecutor needs to understand the framework of cost surrounding those processes;

(3) the prosecutor needs to clearly determine what "winning" is all about and to recognize the costs associated with achieving those ends;

(4) the elements of the system are interdependent and resource allocation between the various components must consider the extent to which those resources are balanced;

(5) while the operationalization of the process may be difficult, recommended dispositional routing criteria may be a way out.

In the final analysis, the degree to which some of these ideas can be put into practice will determine whether the movement into the "Age of Reason" for prosecutors and other parts of the system is successfully navigated.

END