

Summary

Back to the future

The call for justice, 1997-2007: forecasts and actual figures

Good forecasts of the call for justice in the upcoming years are very important as a foundation for the justice budget. For over a decade, therefore, the ministry of Justice has been making annual forecast for the need for capacity in the justice chain. The forecasts are made using the forecasting model developed for the Dutch criminal justice system and the civil and administrative justice systems (PMJ). The PMJ model is based on developments within society but outside the sphere of influence of the Ministry of Justice. The basic underlying assumption of the model is that developments in society drive trends in crime and private disputes. The forecasts produced with this model are enhanced with estimates of the effects of new developments in the area of justice.

This report looks back on ten years of forecasts and considers the quality of the forecasts. It turns out that the mean absolute percentage error (MAPE) of the one-year-forecasts is 5%. The MAPE gradually increases tot 11% for three-year-forecasts and tot 17% for six-year-forecasts. In the short term (up to four years ahead) there is an underestimation, but in the long term (five years ahead and further) there is an overestimation. However neither the overestimation nor the underestimation seem to be systematic. Up to four years ahead the enhancements of the model forecasts with the effects of new developments have an upwards effect on the total forecasts. Since the model forecasts also tend to overestimate the actual figures, the enhancements have increased the forecast error. In the long term, though, the enhancements seem to improve on the model forecasts, but the differences are small. Possibly policies are not implemented as expected, or the speed with which new policy is implemented is underestimated, or the size of the effect is overestimated or the effects have already occurred prior to official implementation.

The forecasts have also been compared to forecasts made with time series models. It turns out that in the short term (up to four years ahead) our forecasts have smaller or similar forecasts errors as the forecasts produced by simple time series models. In the long term (five or more years ahead) time series models perform better, but there is not one single times series model that outperforms the others.

Forecasting errors are to certain extend unavoidable. Already during the development stages of the PMJ-model it was not expected that this kind of model would render smaller forecasting errors than a simple time series model. The advantage of the PMJ-model over time series models is that in the PMJ-model all the chains within the justice system are linked so that to a certain extend simulations are possible.

Despite all the research in the area of justice and criminology our knowledge of the social processes underlying crime and disputes is still limited. Thus fore-

casts in the area of justice cannot be as exact as those in the area of physics. Moreover, social partners have a tendency to react to forecasts, so that forecasts become a self-denying prophecy.

Improvement of the short-term forecasts can be obtained by more frequent monitoring of the latest developments both in the area of justice as well as outside of this area, by using the most recent information even if incomplete, by being critical about the enhancements made to the model forecasts, by using the results of ex-ante evaluations, by systematic evaluation of the implemented policies and by further inspection of the equations in the model. However, unexpected breaks in series remain very difficult to forecast. The long-term forecasts are more difficult to improve. It is not exactly clear in which direction to go. One possibility is a further analysis of the lag structure. Another possibility is to make a distinction between long-term and short-term models.