**Chapter 18 Summary**

The primary objective of this chapter was to introduce the reader to some fundamental concepts in survival analysis. Since specialized books and articles have been written on this topic, we cannot discuss all the details of all the SA models.

In this chapter we discussed three SA models, namely the exponential, the Weibull and the proportional hazard model. Using the data on recidivism, we showed the output of these models and how to interpret the output. The simplest of these models is the exponential or constant hazard model. But this model is a special case of the Weibull model. The proportional hazard model, quite popular in many fields, can be estimated without estimating the baseline hazard model. A drawback of the PH model is that it assumes that the covariates are time-invariant. However, the PH model can be extended to take into account time-varying covariates. Also, the proportional assumption of the PH model can be explicitly tested.

As noted, we did not discuss all the hazard models. In Table 18.8 we give the salient features of the Exponential and Weibull models, along with the lognormal and loglogistic models, which we have not discussed in this chapter. But they can be easily estimated with the aid of packages like *Stata*.

Also note that when = 1, the Weibull distribution reduces to the exponential distribution with *h* = .