Structural vs. Atheoretic

The debate between structural and atheoretic approaches, I believe, should be resolved by identifying the question that researchers try to answer. If we are looking for a model that explains the reality, structural approaches seem more reasonable. As Keane (2010) pointed out, for empirical studies trying to model reality, "interpretation" should be prioritized over "identification". By using the reduced form estimation, parameters can be identified as by the "variation" of some variables that are exogenous, either through instrumental variables or difference in difference. The interpretation of parameters, however, is ambiguous as the meaning of the parameter provide very little clue to explain what the real world. For example, Angrist (1990) used the lottery number during the Vietnam era as an IV to study the effect of military service on income. This is clearly an "ideal" choice of IV as the lottery number is intuitively uncorrelated with income but can affect whether people join the military. However, the parameter still may not be satisfactory because the interpretation could not go beyond "that parameter which is identified when I use variation in Z". If it is the interpretation of parameters or the explanatory power of the model that matters, atheoretic methods fail to provide useful interpretations of empirical models.

However, this is not saying that the interpretation is all that we care about. Sometimes we may want to build a model to predict the future, for which the predicting power is prioritized over the "real" mechanism. I agree with Rust (2010) that "…some false models provide better approximations to reality than others", but I disagree with him in believing that there is value in these "false models", either for some specific forecasting purpose or to fuel the development of theory. As our ability to process data immensely improved in the recent decades, how modern scholars develop theories can be different. Galileo probably did not conduct the inclined planes experiment purely out of curiosity with little theory in mind, but modern scientists could use the assistance of preliminary results drawn from data to develop more convoluted theories. With numerous experiments and data, scientists are able turn vague ideas into theoretical framework without wasting time conjuring what the real mechanism is.

As far as the "too many assumptions" argument goes, I will have to agree with both structural econometricians and "experimentalist[s]" about their opponents. The structural approach requires assumptions about how individual optimize their utility and how uncertainty is generated. These assumptions, although gradually adjusted and improved, can still be very subjective and hard to justify. The reduced form method, on the other hand, imposes assumptions albeit more implicitly and subtly. An IV, lottery number for example, may seem intuitive and ideal but the argument that it can make the identification of military service completely exogenous still requires multiple assumptions. All the possibility that lottery number may affect the unobserved term needs to be rule out by imposing assumptions.

To sum up, I believe that structural approaches explain models better because it guarantees clear implications while reduced form estimation can be useful to fulfill some specific goals. When it comes to assumptions, both sides require many assumptions that are more or less subjective.