CHAPTER 17

Growth of the West German Economy: Forecast by the Bonn Model 11

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Summary

The Bonn Model 11 solutions for the FRG are compared with those of the Bonn–IIASA world model. The models were constructed for different purposes and according to different principles. In general, the forecasts of the Bonn Model 11 are more pessimistic than those of the world model.

17.1. The Bonn Model 11

The model consists of 480 equations, 151 of which are behavior equations. It is a yearly model constructed to deliver medium-term forecasts. *Table 17.1* indicates the submodels and the number of definitional and stochastic equations within these submodels. The table shows that the model emphasizes the government sector and the social insurance system. The administrative regulations are modeled in detail, following the administrative laws and rules of behavior.

The model as it stands now is a pure economic one in the sense that political decisions as well as the variables describing the world economy are taken as exogenous. There are four important *domestic exogenous variables*:

(1) The nominal wage rate agreed upon by employers and trade unions, which is the result of a bargaining process that has not been modeled. The actual wage rate differs from it by the wage drift, which is endogenous. For the forecasting period we assumed a yearly rate of growth of 4.5% of the nominal standard wage rate.

W. Krelle (ed.), *The Future of the World Economy*

(2) Public investment at current prices, which depends on political decisions that cannot be explained only by the economic situation. For the forecasting period we assumed a yearly rate of growth of 5.4% of the value of government investment.
(3) The central bank's supply of high powered money. For the forecasting period we assumed a yearly rate of growth of 5%.
(4) The discount rate, which depends on the monetary policy of the Bundesbank. For the forecasting period it is kept constant at the 3.5% level.

Table 17.1. Number of behavioral and definitional equations in the submodels of the Bonn Model 11.

Submodel	*Behavioral equations*	*Definitional equations*	*Total*
Domestic product and national income	13	42	55
Private final demand	5	20	25
Prices	17	39	56
Capital stocks, capacity and utilization ratio	2	11	13
Labor market	12	44	56
Foreign trade and balance of payments	12	35	47
Monetary sector	29	8	37
Public sector including	61	130	191
Total public sector	(1)	(46)	(47)
Federal, state, local government	(34)	(40)	(74)
Social insurance system	(26)	(44)	(70)
Total	151	329	480

Tax rates and the rates of social security contributions are also held at the actual level.

There are four important *foreign exogenous variables*:

(1) The real world market demand. We chose total world imports (in billions of 1975 dollars) as an indicator and used the forecasts of the world model; see *Table 20* in Annex 3.
(2) The price level on the world market. We chose as an indicator the price level of total world imports (in $) as forecast by the world model. This series is not reproduced in Annex 3. We present the growth rates in *Table 17.2*.
(3) The foreign interest rates. We kept the long-term foreign interest rates constant at 8%, the short-term and the Eurodollar rate at 6%.
(4) The exchange rate index of the DM with respect to all other OECD currencies. We assumed a 1% appreciation of the DM per year. This, of course, is a very crude approximation which is only used for the purpose of comparison. Otherwise, we use a special subsystem to determine the exchange rates; see Krelle and Sarrazin (1985).