

Appendix B: Description of Model Structure

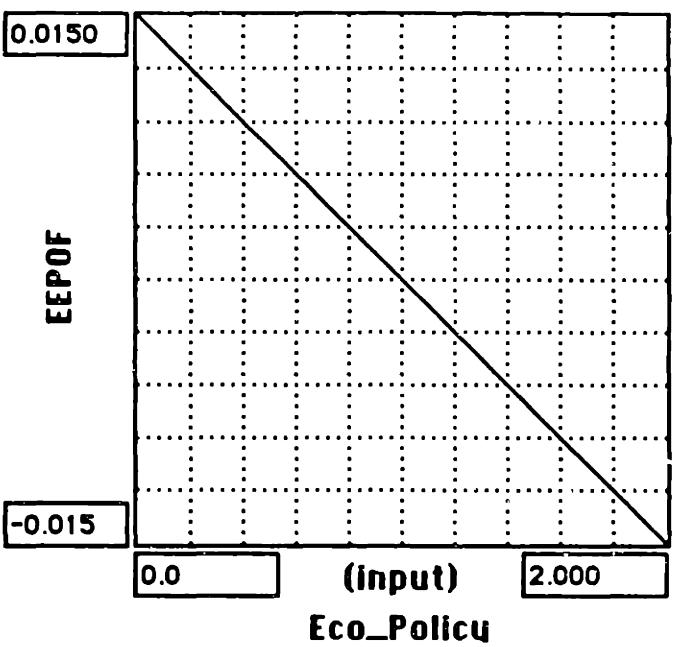


Figure B.4.6: Effect of Economic Policy on Output Fractions (EEPOF)

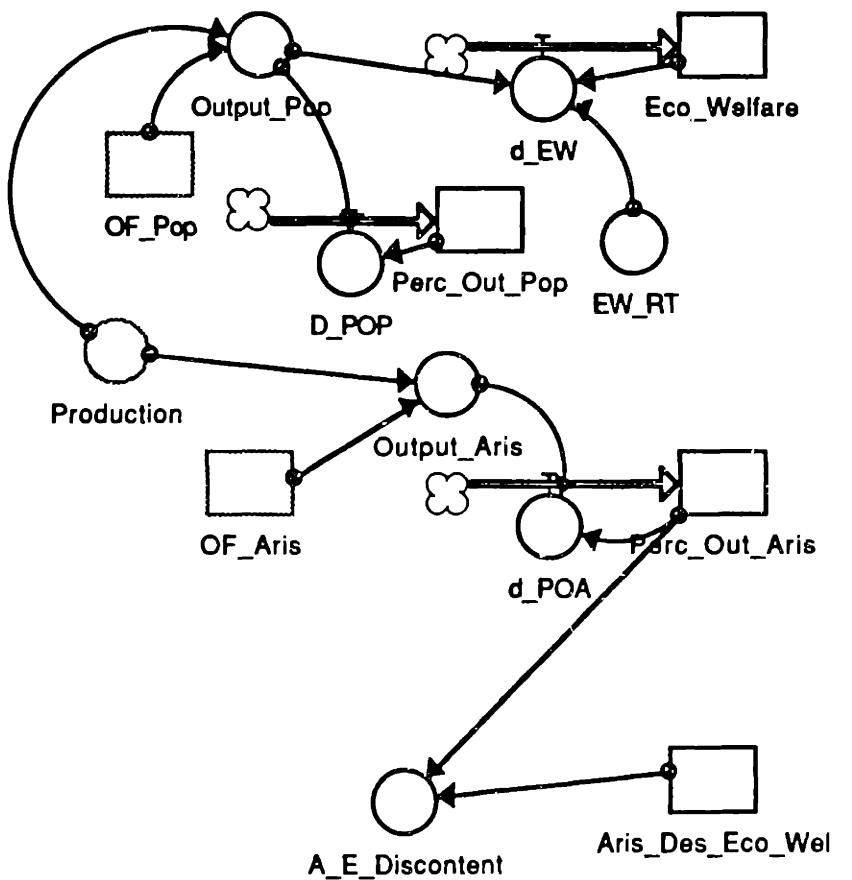


Figure B.4.7: Actual and Perceived Economic Welfare

Perceived Output to Populace (Perc_Out_Pop)

This is measured in units of welfare and is a short time constant smooth of output to populace. As it is unlikely that the populace responds immediately to executive actions, this variable accounts for imperfect information flow.

Perceived Output to Aristocracy (Per_Out_Aris)

The level of perceived output to the aristocracy is a first order smooth tracking the actual output going to the aristocrats (Output_Aris). Output_Aris is determined by multiplying the total production (Production) by the output fraction for the aristocracy (OF_Aris).

This desired level of economic welfare is compared to the aristocrats' perceived output (Perc_Out_Aris) in order to determine the amount of aristocratic economic discontent (A_E_Discontent). Economic discontent prompts the aristocrats to agitate for a change in the laws governing economic distribution.

B.5 Resistance and Rebellion*Average Political Unrest (Ave_Pol_Unrest)*

Average political unrest is a smooth of total popular political unrest (TPP_Unrest) and represents the level of unrest that the populace has become accustomed to. In a society accustomed to high ambient levels of violence, a few government-sponsored murders are unlikely to provoke comment. Thus, the perceived level of turmoil (which will be discussed elsewhere) utilized in this model is dependent on relative rather than absolute unrest.

The inputs to Total Unrest (TPP_Unrest) are variables representing political disagreement, disaffection, and discontent. Although these terms may appear to be the same (all represent some form of political dissonance), the model makes some important distinctions between them in order to determine the mix of popular responses to particular government policies.

a) Popular political disagreement (P_P_Disagreement) represents the conflict between the ideals of the lower class and the values of the government reflected in the political law. This disagreement is with the form of government and legislation process which creates such unacceptable laws.

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b) Popular political disaffection ($P_P_Disaffection$) represents the dissonance between those values espoused by the law and those policies actually implemented by the executive. A high value indicates disaffection with the executive (who is obviously bending the government to accomplish his own objectives).

c) Popular political discontent ($P_P_Discontent$): represents the discrepancy between the desired and actual state of affairs (discussed earlier).

Total political unrest (TPP_Unrest) is the sum of these dissonances.

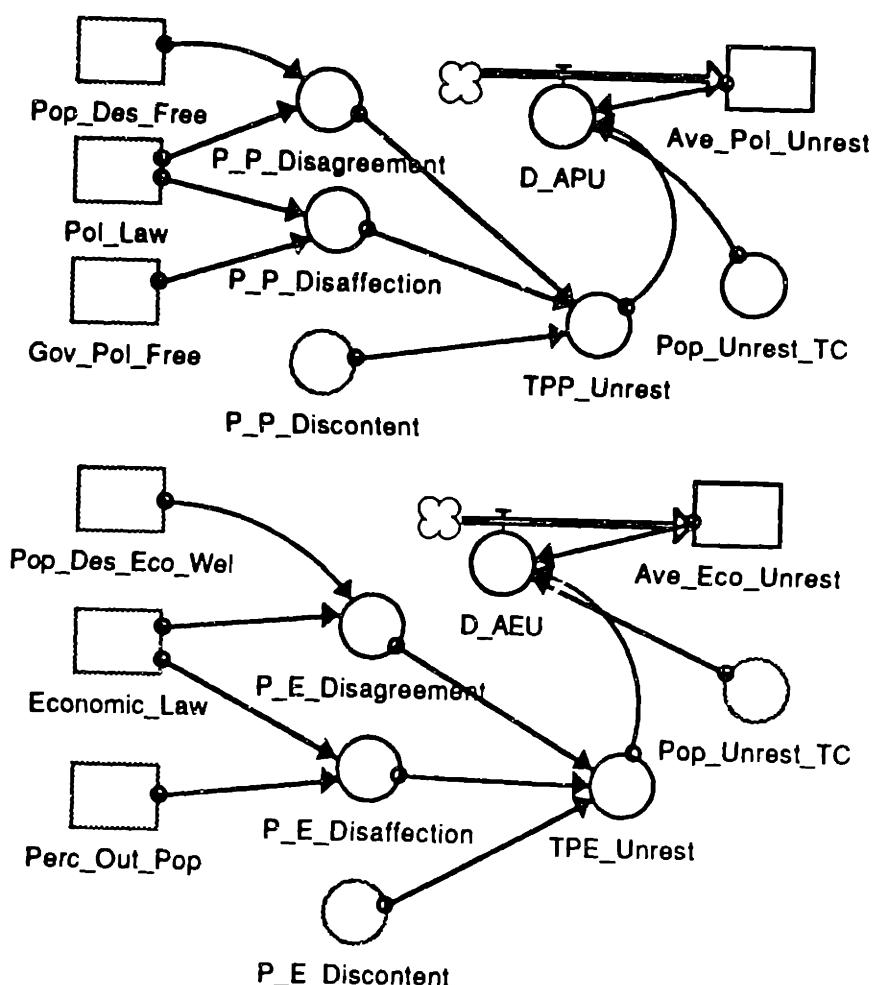


Figure B.5.1: Political and Economic Unrest

Average Economic Unrest (Ave_Eco_Unrest)

This structure is identical and parallel in every fashion to that of average political unrest (Ave_Pol_Unrest).

Turmoil (Turmoil)

Turmoil is equal to the difference between the average level of unrest and the actual level. Thus, it resembles a measure of the rate of change in popular dissonance. At high levels of turmoil, people are apt to do things that they would never consider during calmer times. Total turmoil (Turmoil) is the sum of political turmoil (Pol_Turmoil) and economic turmoil (Eco_Turmoil).

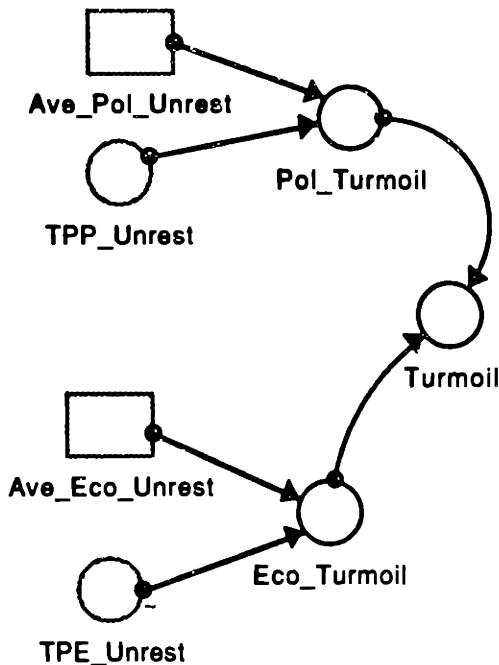


Figure B.5.2: Turmoil

Opposition to the Executive (Opp_Exec)

Opposition to the executive is here defined to be the use of violent or non-institutionalized methods to decrease the power of the executive, i.e. rebellion. It is measured in composite units (economic and political discrepancy) and roughly formulated as the sum of popular discontent, disaffection, and turmoil, modulated by the effects of economic welfare(EEW_Protest) and political freedom(EPF_Protest). Discontent is a dissatisfaction with the current state of affairs. Disaffection is dissatisfaction with the actions of the executive (see discussion of average political unrest). Turmoil results from quickly growing dissonance--it shakes the complacent and makes violent/revolutionary behavior more acceptable. EEW_Protest and EPF_Protest represent the impossibility of action at extremely low levels of welfare or freedom (see Figures **).

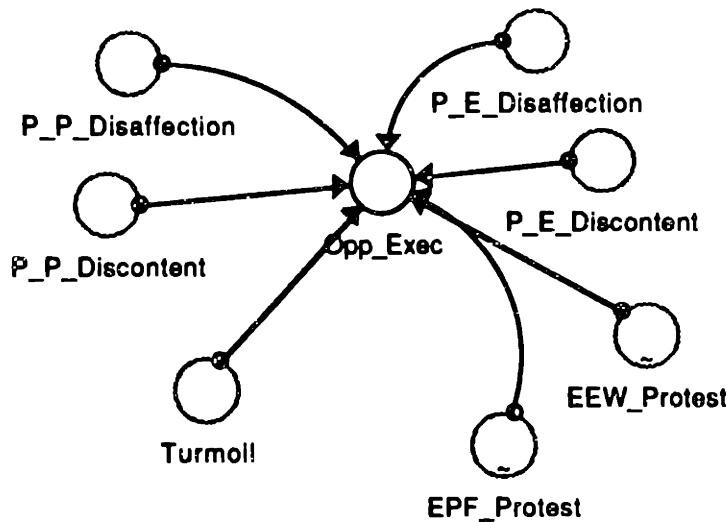


Figure B.5.3: Opposition to Executive

Opposition to the Legislature (Opp_Leg)

Opposition to the legislature represents those non-legal methods used by the populace to curtail or usurp the influence of the legislature. It is formulated almost identically to opposition to the executive. The only difference is the substitution of disagreement for disaffection. As has been mentioned, disaffection is a measure of dissatisfaction with the performance of the executive, while disagreement represents dissatisfaction with the laws created by the legislature.

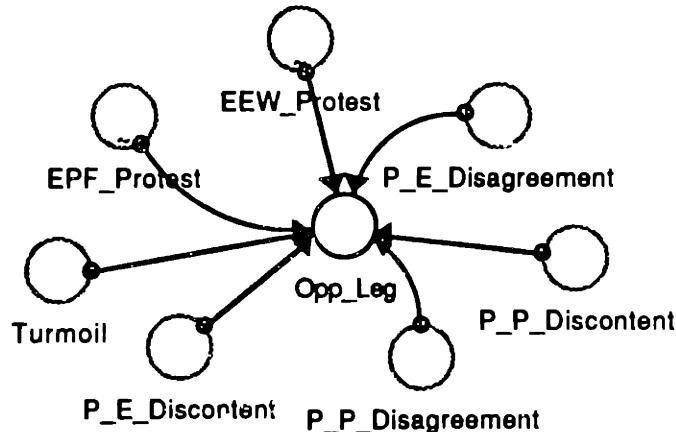


Figure B.5.4: Opposition to Legislature

Traditional Opposition: (Trad_Opp_Gov, Trad_Opp_Exec)

Both traditional opposition to the legislature and traditional opposition to the executive are measured in composite units (economic and political discrepancy). Trad_Opp_Leg is a smooth of Opp_Leg while Trad_Opp_Exec is a smooth of Opp_Exec. With this formulation, the model once