

## Appendix B: Description of Model Structure

Figure B.2.6).

Popular seizure of legislative influence is due to two main factors. Protest ( $\text{Tot\_Protest} = \text{P\_P\_Protest} + \text{P\_E\_Protest}$ ) prompts the people to attempt to take a more active role in government. This is a relatively peaceful form of influence seizure and is modeled by the table function EPPLI (Effect of Popular Protest on Legislative Influence) (Figure B.2.3). In contrast, when the level of opposition to the legislature ( $\text{Cli\_Opp\_Leg}$ ) reaches very high levels, the lower class is likely to rise up and take over the legislative body, thereby aggrandizing power in a short time. We see this extreme possibility in the table function EGOPLI (Effect of Government Opposition on Popular Legislative Influence) (Figure B.2.5).

Aristocratic seizure of legislative influence is motivated entirely by discontent. ( $\text{A\_Tot\_Discontent} = \text{A\_P\_Discontent} + \text{A\_E\_Discontent}$ ). There are no provisions in this model for executive overthrow of the government. Thus, the tendency of the upper class to aggrandize power is assumed to be a very incremental and linear function--one might characterize it as "rational." As they become more discontent, they begin to divert more of their resources to political action. This response is illustrated by the function EATDLI (Effect of Aristocratic Total Discontent on Legislative Influence) (Figure B.2.7).

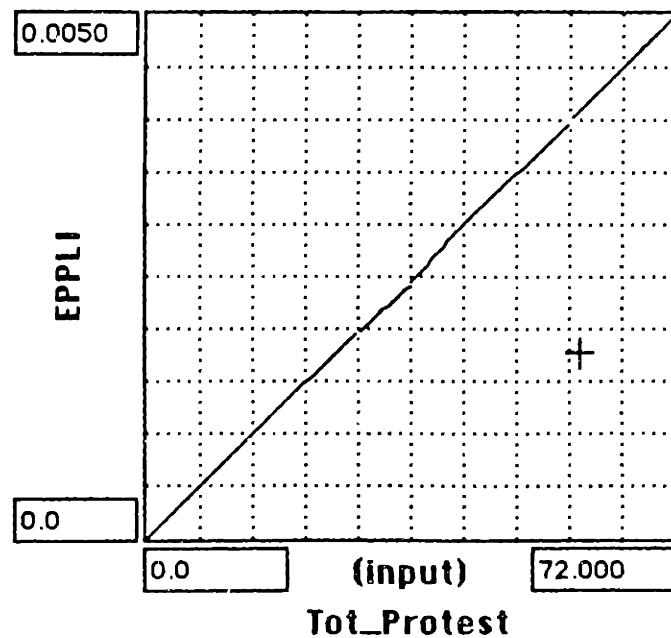


Figure B.2.3: Effect of Protest on Popular Legislative Influence

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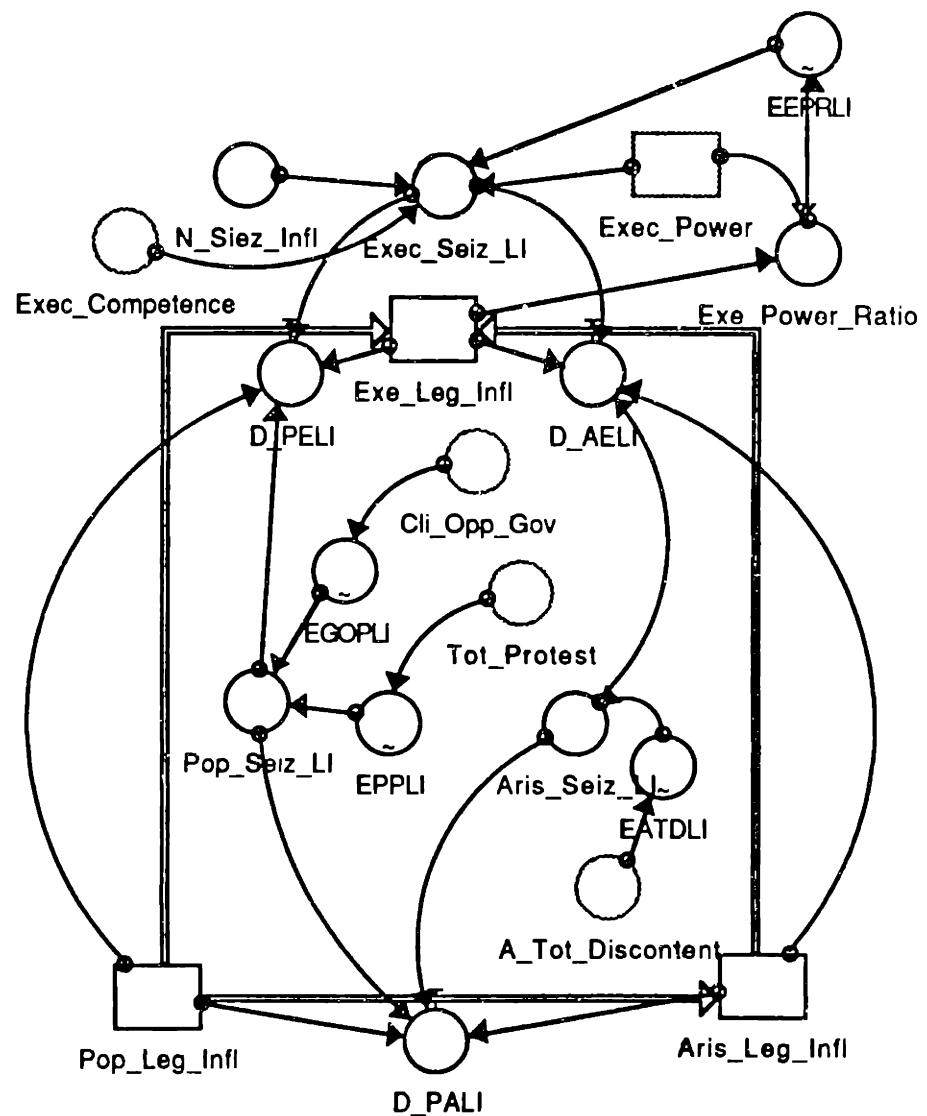


Figure B.2.4: Legislative Influence

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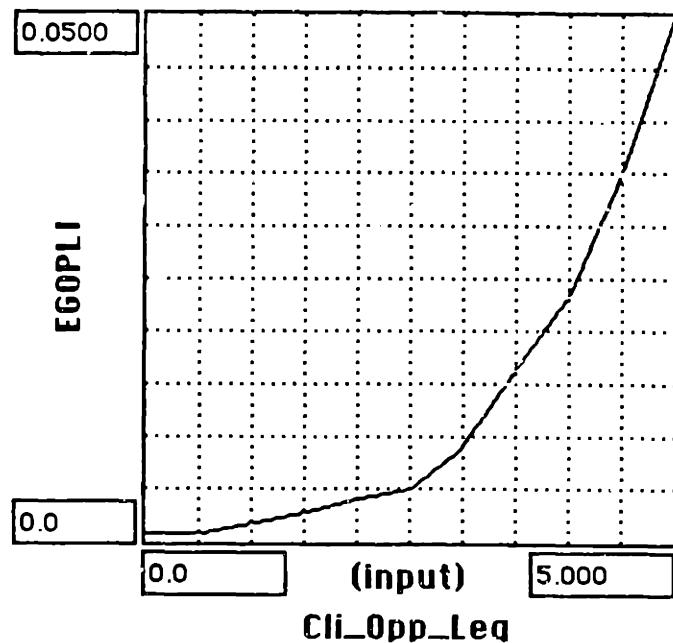


Figure B.2.5: Effect of Government Opposition on Popular Legislative Influence

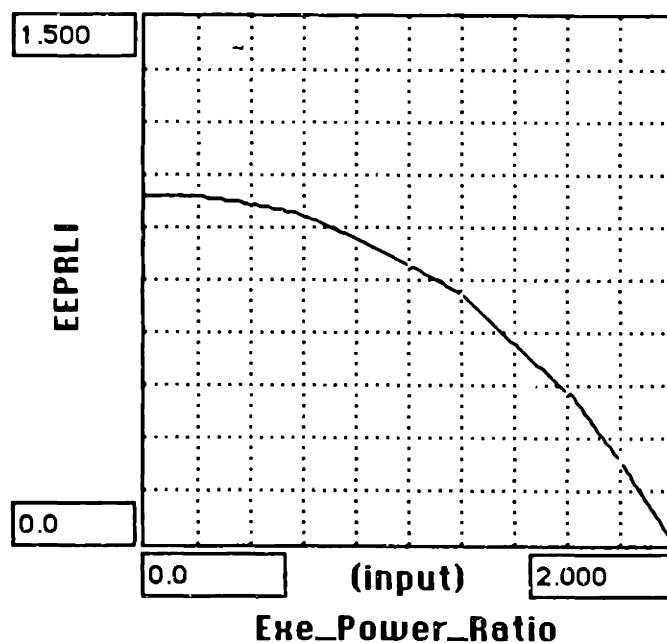


Figure B.2.6: Effect of Executive Power Ratio on Legislative Influence

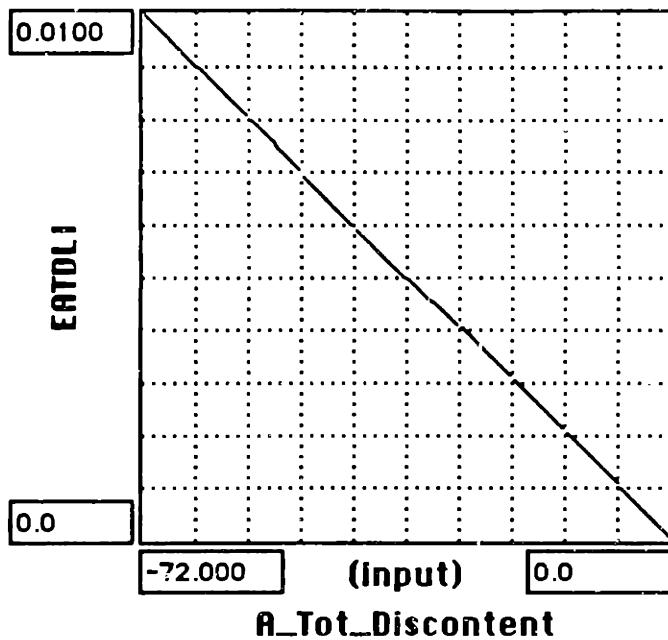


Figure B.2.7: Effect of Aristocratic Total Discontent on Legislative Influence

### B.3 The Role of the Executive

#### *Executive Desired Freedom (Exe\_Des\_Freedom)*

Initially, the executive desired level of freedom is set equal to the equilibrium value (50). Since the executive is just one person, Exe\_Des\_Freedom is a constant rather than a level. In order to allow for the testing of various policy switches, the variable executive political vacillation (Exex\_Pol\_Vac) has been included as an input (and initially set equal to zero). If more realism is desired for testing purpose, pink noise (Pink\_Noise) can be added to executive desired freedom to represent both imperfect information and reasoning as well as indecision.

Ideally, the role of the executive is to execute the laws of the republic. In actuality, it is likely that the government policy actually implemented by his administration will be some mixture of those norms mandated by the law and the executive's own desires. Political initiative (Pol\_Initiative) is this mixture of norms actually implemented by the government. Executive power (Exec\_Power) is the weighting factor applied in order to select the appropriate mixture of policies. In the extreme case where the executive is a tyrant, Exec\_Power is equal to 1 and political law (Pol\_Law) is completely ignored. Similarly, if the ruler is without power (Exec\_Power=0) then his desires are ignored and the law is mechanically implemented.

#### *Executive Desired Economic Welfare (Exec\_Des\_Eco\_Wel)*

Executive desired economic welfare is measured in units of welfare and is with respect to the populace. It is compared to the actual level of economic welfare (Eco\_Welfare) in order to arrive at executive economic discontent (E\_E\_Discontent). The economic initiative of the government (Eco\_Initiative) is the weighted average (Exec\_Power is the weighting function) of Exec\_Des\_Eco\_Wel and Economic\_Law. As in the case of executive desired freedom (Exe\_Des\_Free), pink noise (Pink\_Noise) can be added to simulate the faulty information flows, lack of certainty, and indecision of the executive.

### *Executive Power (Exec\_Power)*

This is the measure of the executive's influence over the government's policy apparatus. A value of one represents total dictatorship, a value of zero represents lack of any tangible influence (figurehead/lame-duck). It is assumed that the executive will always attempt to aggrandize more power, and in the absence of any opposing forces he would eventually assume control of the government. Factors which prevent this include popular opposition to the executive (EOEP) as well as the natural tendency of organizations and special interests to fight central control (EEPO). As we can see in EOEP (Effect of Opposition on Executive Power) (Figure B.3.1), when Cli\_Opp\_Exec reaches extremely high levels, an uprising with the intent of removing the despot is likely. At more moderate levels, the executive may find his paths to power blocked. As long as society is complacent, he continues to gain strength. A variable representing executive competence (Exec\_Competence) has been included (initially set equal to one) in order to test the response of the system to a political leader more adept than average at aggrandizing power. In certain runs this is set equal to 1.5.