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Economic Sanctions in a Dictatorship Model

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ECONOMIC SANCTIONS IN A DICTATORSHIP MODEL

I. Introduction

Early works on the effectiveness of sanctions concentrated on the potential economic damages imposed by the economic sanctions. In Bayard, Pelzman and Perez-Lopez's 1983 survey of what they termed "the key issues involved in the decision to implement sanctions" (p.73), they find that the economic costs and benefits, and implementation problems of sanctions are the principal factors in studying sanctions. From their findings, they infer that multilateral sanctions are more economically effective than unilateral sanctions. Although the authors focus on the implementation issue, they do ask the question of whether or not economically effective sanctions achieve political goals.

Others who focus on the economic impacts also support the use of multilateral sanctions, if any form of sanctions is to be used at all. Frey (1984) notes the importance of the elasticities of the target nation's supply and demand curves and of that country's ability to shift production to

those countries, point to the fact that many people are interested in more than the sanctions' effectiveness in meeting their desired goals; the general public is also concerned about the effects on the people within the country. Mass suffering for these peoples can deteriorate domestic and international support for sanctions, despite the fact that those sanctions have permitted humanitarian goods to be imported. (Haass, 1997).

Van Bergeijk (1989) promotes multilateral sanctions, but notes that economic damage does not necessarily imply political change. Hufbauer, Schott and Elliott's (1990) empirical model also focuses largely on the economic effectiveness of sanctions; however, they too enter political variables into their analysis. Although sanctions may have significant economic effects on a target country's economy, this does not always result in a change in the behavior of that state's government.

Sanctions often have effects opposite to those desired by the sanctioning body (see e.g. Losman, 1979; Lindsay, 1986; Kaempfer and Lowenberg, 1986). Scolnick (1988) provides anecdotal evidence to support the fact that even when sanctions do have substantial economic effects they may adhere the populace to the government's stance. This has been termed the "rally around the flag" effect (Willett and Jalaighajar, 1983; Findlay and Lundahl, 1987). On the other hand, Kaempfer and Lowenberg (1988, 1999) take a public choice approach to show that sanctions that have weak economic effects can still ignite policy changes by signaling cooperation or disapproval to the target country's interest groups. It is, however, unclear that sanctions will consistently destabilize the ruling regime or assist its opponents (Lipton, 1988). This is partly attributable to the assumption that the sanctions are income reducing for both the groups in favor of and in opposition to the regime's policies (Kaempfer and Lowenberg, 1999). Our goal is to develop a model that can clarify the way in which economic sanctions affect domestic policies.

Several authors have alluded to the importance of opposition groups within the target regime (e.g. Reuther, 1995; Kaempfer and Lowenberg, 1999), still the effects of opposition

groups have rarely been formally modeled. Kaempfer and Lowenberg (1992) use a threshold model in a study where the result of political opposition is viewed as a public good to show how international policies can affect a target country's political outcomes. Schultz (1998) shows that the presence of an opposition party in a democratic state decreases the probability of international conflict. Van Bergeijk (1989) and Hufbauer, Schott and Elliott (1990) judge the outcome of a set of sanctions against their policy goals and find that the political success of sanctions are positively correlated with political instability in the target country. However, they largely base their measurement of the instability of the government on the variables that reflect the performance of the economy such as the unemployment and inflation rates.

According to the Department of the Treasury, the U.S. currently imposes comprehensive sanctions against the governments of Cuba, North Korea, Libya, Iraq, and The Federal Republic of Yugoslavia, Iran, Syria and Sudan[1]. Nearly all of these governments can be defined as dictatorships. It seems reasonable then, that a model predicting the effects of sanctions on a target country should view that country's government as a dictatorship. As such, any opposition to the government must be modeled within the context of a dictatorship, and thus unemployment and inflation are probably poor measures of instability. It therefore appears that one appropriate model of economic sanctions might look at their members' cooperation within the cho

the price of imports and make sanctions rents possible for domestic producers and smugglers. The ruling regime or its supporters may gain some of these rents, which allow increased control over the country, making the sanctions politically ineffective. "The result is that these groups that benefit from sanctions not only have an incentive to keep sanctions in pla ce, but they have the support of the government to some extent" (Selden, 1999, pg.75). Although Haass (1997) finds some evidence in support of sanctions (he estimates that they work about one-third of the time), he too alludes to the possibility of rents obtained from the sanctions. "Most sanctions do not discriminate within the target country. There is a rationale for this: funds and goods can easily be moved around, and governments can often command what is in the hands of others" (p.96).

Although the idea that the citizenry's belief system c

The levels of repression and loyalty are not independent of one another. An increase in repression may take the form of an increase in the array of banned conduct, the level of enforcement, or the extent of the punishments. All of these affect a person's loyalty "portfolio". Anyone against the government is offering loyalty to some potential alternative to the government. If the degree of repression rises then the expected return on this asset declines because the risk goes up. This can be viewed as an increase in the price of investing loyalty in an opposition group; with this price increase, there will exist a substitution effect as well as an income effect.

The substitution effect entails the citizen investing more loyalty in the ruling regime and less in any opposition group, which implies that the supply of loyalty to the dictator will increase with the level of repression. With an increase in repression applied by the dictator, the likelihood that any citizen will be the target of some punishment increases, as might the size of the potential sentence. This happens even if the individual is a loyal supporter of the regime. Therefore, any increase in repression constitutes a decrease in the individual's wealth, and we get the typical income effect. It is reasonable to suppose that for most people the income effect will be small at low levels of repression. Thus, we can assume that the supply of loyalty is a positive function of inclow le0k goes upbn on lty e in : asoes780.1875 Tw ( ) Tj -30.75 -25.5 TD 1961849 8Tc 0.32/F2 1275 Tw T8u
0.1612might the siz

the price because of the diminishing returns in gaining loyalty.[3] Finally, the price of loyalty will depend on E, the nation's economic performance. If the regime performs better economically than expected, the value of political exchanges with the government increases, and thus, the dictator's price of loyalty declines.

The production of power is represented by $\pi(L, R)$ where π is the level of power. We assume π to be well-behaved, meaning $\pi_L>0$, $\pi_R>0$, $\pi_{LL}<0$, $\pi_{RR}<0$, $\pi_{LR}>0$ (as discussed, there is some complementarity between repression and loyalty). The dictator's cost minimization problem is demonstrated in figure 2.1 below.

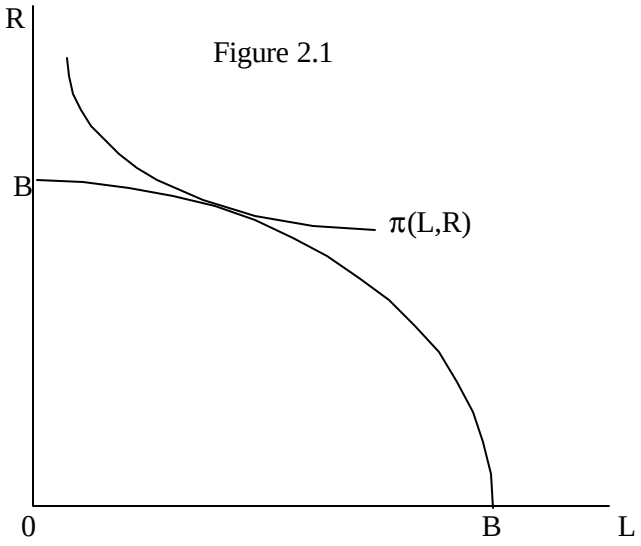


Figure 2.1

For any given budget, BB, the dictator will want to achieve the maximum amount of power. This occurs where the ratio of the marginal products equals the ratio of marginal costs in the production of power. This will be greater (or less) than the ratio of the input prices because the

[3] "The demand price, the price paid for a unit of loyalty capital by the dictator differs from the supply price, the price received by suppliers of loyalty because the former includes all costs incurred by the dictator to create and maintain loyalty, whereas the latter includes only the portion actually received by the suppliers of loyalty" (Wintrobe, 1998, pg.50). Normally, the two prices will move together so we will assume that the ratio P^{LD}/P^{LS} is fixed so the superscripts D and S can be dropped to simplify notation.

marginal cost of repression is less than its price given that an increase in repression decreases the price of loyalty.

The dictator chooses consumption and power to maximize his utility subject to the constraint that the amount spent on consumption and power must be equal to his budget. Thus, the dictator solves:

Max. U=U(C,π) s.t. $B(p) = P^{p} \cdot p\,(B - C) + C$ (2)

where B is the dictator's budget and P^{π} is the price of power, which will be explained in a moment. Consumption is the numeraire. The left hand side of equation 2, the dictator's budget, is obtained through his use of power by collecting taxes, confiscating property, selling licenses, etc. We should expect B_{π} to be positive for the most part because as the dictator uses his power to collect taxes and the like he should be able to gain more revenues. It is possible that at some larger levels of power the appropriation of funds from the public will harm the economy enough that B_{π} will be negative. We will restrict our model to look at the areas where B_{π} is positive.[4]

Power is obtained by spending money to repress the public or to gain loyalty, thus it is represented on the right-hand side of the budget constraint by π(B-C), as in Wintrobe (1998). It is reasonable to assume that more money spent will result in more power, but that there are diminishing returns. The dictator's choice can then be represented by the two figures below.

[4] There are many examples where B_{π} may be negative, and the sign of B_{π} is important in determining the type of dictatorship and what ratio of repression to loyalty the dictator will use. For a detailed discussion on the effects B_{π} see Wintrobe, 1998. We abstract from these results somewhat here to focus on the role of sanctions and opposition groups, but one should keep in mind the possible effects of a negative B_{π} as we continue our analysis.

B C

Figure 2.2 π(B-C) Figure 2.3

B* B(π)

B

C*

U(C,π)

C*

π* π π* B

In figure 2.3, the budget curve BB represents the amount of the budget B* that is derived in figure 2.2.

The first order conditions to the dictator's maximization problem give:

$$\frac{U_p}{U_C} = P^p + p \cdot P_p^p - B_p \qquad (3)$$

The price of power, P^p, will depend on the regime's ability to convert loyalty and repression into power, and on the costs of repressing the public and gaining loyalty. As a result, the solution to the dictator's cost minimization problem will give the price of power. The first order conditions from the minimization problem yield:

$$\frac{p_L}{p_R} = \frac{P^L + P_L^L \cdot L}{P^R + P_R^L \cdot L} \qquad (4)$$

So the price of power is given by: RRrw (The pri 0 3DTc 0 Tw (L) Tj -21.75 0 TD 0.168 Tc (P) Tj -26.25 0 TD (P) Tj -21.75 0 TD 0Tc 0 Tw (L) Tj -21.75 0 TD 0.168

R L

R L

p

+ · – p P p B p p

In our model, the dictator has no control over s or q[6], but the inclusion of sanctions and opposition groups will affect his choices of consumption and power, as well as the levels of repression and loyalty. The level of sanctions and the opposition will affect the autocrat's problem in several ways: they affect the dictator's ability to obtain revenues, and they affect the prices of repression and loyalty.

The amount of the dictator's budget will depend on any rents that the dictator may extract from the sanctions. It is nearly impossible to perfectly implement economic sanctions; embargoes and boycotts are normally easy to circumvent (Adler-Karlson, 1995). Trade sanctions raise the price of imports above the world price generating rents for domestic producers and smugglers. A boycott on exports suppresses the target country's export prices below world prices, which establishes the possibility for profiteering by transshipping or by middlemen who can buy goods cheaply in the target country and then sell them at world prices. Thus, sanctions create the opportunity for firms or individuals to profit by "arbitraging" between world prices and the terms of trade in the target country. The existence of sanctions leads to the creation of 'sanctions rents' that come about because of the wedge that sanctions drive between world prices and the terms of trade in the target country. An increase in

Given that the autocrat initially had sufficient power, he could alter the terms of trade himself by imposing trade restrictions, and thereby gain similar rents without sanctions. However, for obvious reasons, this would almost certainly lead to a rise in the dictator's price of loyalty. It may also increase the price of repression because groups opposed to the trade restrictions may try to subvert the legislation. As will be demonstrated shortly, the imposition of sanctions allows the dictator to gain rents from a change in the terms of trade possibly without the increase in the price of loyalty. In addition, if the ruler enacts trade limits to alter the terms of trade and gain rents, then the costs of imposing and enforcing these restrictions are borne by his regime. As a result, the rents may be much smaller than those made possible by sanctions imposed by other countries.

In our model, any additional embargo increases *s* and results in larger terms of trade changes. Because of the greater terms of trade effects, there are more possibilities for the autocrat to gain sanctions rents, so any increase in *s* should increase the dictator's budget. At the same

Sanctions will directly affect the price of loyalty in several ways. The sanctioned country's citizens may view the dictator as being weaker when the sanctions are imposed, and the sanctions may encourage citizens to oppose the leader because they know they have outside support. This would tend to increase the price of loyalty. In contrast, the general public may feel oppressed by the sanctioning countries and rally to their leader's cause. This 'rally around the flag' effect will certainly decrease the price of loyalty. This effect may be enhanced if multilateral sanctions are imposed by groups (such as the UN) that have member countries that oppose the sanctions. This might send a signal to the target country that they have outside support despite their "objectionable" policy. It is highly probable that groups close to the dictator may ally themselves further to seek for themselves some of the rents from sanctions. This would have an exceptionally negative impact on the price of loyalty for those, often powerful, groups. In sum, (abstracting from any influence *s* may have on the price of loyalty's other explanatory variables) an increase in the level of sanctions has the potential to move the price of loyalty in either direction.

The level of opposition will affect the price of loyalty in that we expect the price of loyalty to rise as q rises because the expected returns to investing in any opposition groups will rise if those groups are larger or more efficient. Therefore, $P^L = P^L(R, L^S, E, q, s)$ and we can expect P_q^L to be positive.

In our model, the costs of repression will depend on the type and severity of sanctions and on the nature of opposition groups, as well as Wintrobe's (1998) traditional costs. The price of repression depends on the resources that must be diverted in order produce repressive legislation, enforce the legislation, and punish any person or group offending the legislation. The amount of resources used to enforce the laws of the regime will certainly rise as q rises, as might the cost of punishing those who break the laws because with an increase in q there may be a need for more trials, jails and executions. The level of sanctions may have a direct effect on the price

of repression if the inputs used in repression are themselves sanctioned causing the costs of oppressing the populace to rise. Thus,)

for them to ally themselves with the opposition group. In this case, we would expect the overall level of repression to fall relative to the amount of loyalty.

Alternatively, if there existed a situation where opposition groups were more clandestine and centrally located, then the cost of repressing them would not rise much but the price of loyalty may increase significantly with the efficacy of these covert groups. In this case, we would see the dictator use relatively more repression. Keep in mind that any change in the level of repression has income and substitution effects on the supply of loyalty as well.

We now examine the consequences of administering or increasing sanctions on a target country abstracting from the effects on opposition groups. Here, B_s is positive, while P_s^R and P_s^L may be positive or negative. The effects of an increase in *s* are shown in figure 2.5 below.

B

Figure 2.5

$\pi_0(B\text{-}C)$

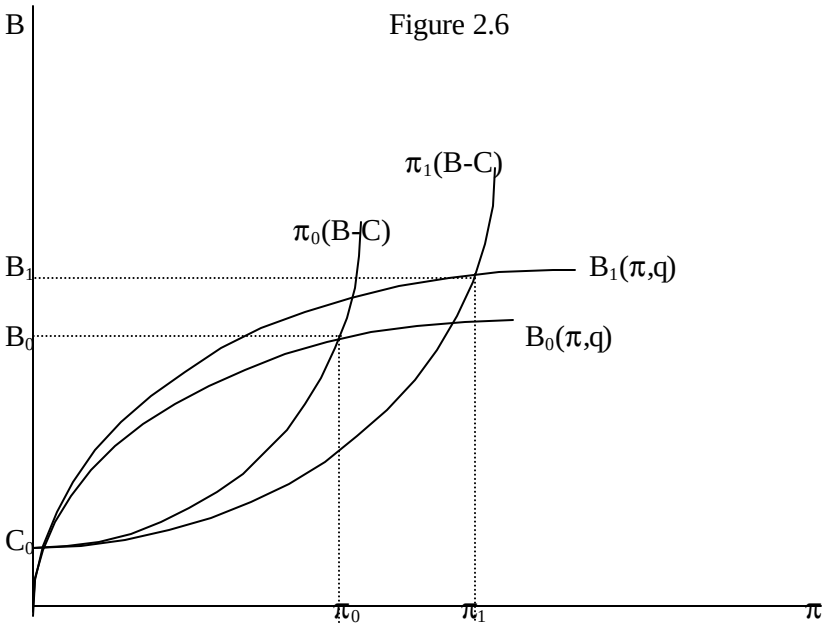
$\pi_1(B\text{-}C)$

B_1

wealth effects on consumption and the application of power, which both rise, so consumption must increase and we see a parallel shift in π(B-C). The increase in power, in turn, brings about a

effects of sanctions on the price of loyalty will depend largely on the nation's economy and its political culture. If we assume that the 'rally around the flag effect' dominates then P^L falls, and the two price effects cause P^π to fall. This situation is pictured in figure 2.6.

Figure 2.6



We have again assumed that there is a zero net effect on consumption. Power will unambiguously increase along with the levels of loyalty and repression. Any relative change between R and L will depend on the relative changes in their prices and on the substitution and income effects on P^L from the change in repression. It is clear that in this setting, the sanctions do not adversely affect the dictator and the common people suffer.

Once more, it is possible that the conditions necessary for increased public support of the government due to the sanctions[12] are not met. Here, P^L rises, so there will be a shift away from the use of loyalty as an input in the production of power; the level of repression will rise significantly to somewhat offset the effect that the increase in P^L has on the supply of loyalty. In

[12] See Scolnick (1988) for a survey of these conditions.

this instance, we might still see the price of power fall. This possibility is obviously the worst scenario for the populace of the target country.

IV. Application: Iraq, Haiti, and the Former Yugoslavia

We will test the model's usefulness by examining three cases where economic sanctions have been used to try and alter some of the regime's policies; we will focus mainly on Iraq, but comment briefly on the former Yugoslavia, and Haiti.

On August 6, 1990, the UN Security Council passed resolution 661, imposing economic sanctions on Iraq, which prohibited any exports from Iraq or Kuwait (which was under Iraqi control at the time). After the Gulf War, the UN Security Council passed Resolution 687 (the cease-fire resolution) stating that economic sanctions on both imports and exports (except goods used for medical purposes, and foodstuffs) would remain intact until Iraq complied with the other requirements stated in the resolution. The Security Council later passed a resolution making it possible for Iraq to export oil in return for foodstuffs and medical supplies (Reuther, 1995).

There were (and are) several stated goals sought by imposing the post-cease-fire sanctions. Among other goals, these include maintaining a safe border for Kuwait, eliminating Iraq's weapons of mass destruction, and "forcing" Iraq to eschew terrorism. There may be other goals not directly stated in the UN resolutions such as the devastation of the Iraqi economy to induce the removal of Saddam Hussein from office.

Our model focuses not only on whether sanctions are successful or not with respect to their stated goals, but also on sanctions-induced political behavior within the target country. Specifically we concentrate on the changes in political repression and in the structure of any potential opposition to the existing government. According to our model, the application of sanctions on Iraq should have an effect on potential opposition groups in Iraq. They should also affect Saddam Hussein's budget, the prices of loyalty and repression that he faces, the price of

power, the amount of power and consumption chosen, and ultimately the level of repression in Iraq.

The main potential opposition groups in Iraq since Saddam Hussein came to power in 1979 have been the Revolutionary Command Council (RCC), the Shi'ite majority, the Kurds in northern Iraq, and to a much lesser extent, the Madan in the south. Saddam virtually wiped out

zero. In addition, indirectly, the sanctions effect on the economy debilitates even further the already feeble opposition situation.

Observers say that trade sanctions may have cut Iraq's revenues by 90 percent; at the same time inflation has soared to record highs.[14] Although Iraq's economy has been devastated, and general living standards have declined, the Iraqi security, intelligence, military, and clans loyal to the Ba'ath have prospered, largely on embargo-defying trade (Edwards, 1999). This too follows results predicted by our model. Those in a position to do so may further ally themselves with the leader to gain some of the sanctions rents, which decreases the price of loyalty for these important and often powerful groups. The Iraqi government and its support groups have put themselves in a position to acquire any sanctions rents, and these will be significant, especially if the smuggling includes oil and petroleum products. Indeed, "the illegal oil trade is critical to keeping the Hussein regime in power, as well as maintaining the ruling clan's luxurious lifestyle" (Selden, 1999, pg.87). We will assume the net effect on the price of loyalty in Iraq to be zero (P^L increasing for the general population, but decreasing for more powerful factions loyal to Saddam), but it would not affect the consistency of our model in explaining the effects of sanctions in Iraq if P^L shifted moderately in either direction.

Recently, the extent of smuggling into and out of Iraq has largely increased due to a relaxed attitude towards the embargo by many of the sanctioning nations. As a result, Iraq's economy has been improving, and more groups are benefiting from the sanctions rents. "Business has been booming for the past year, ever since oil prices began their steady ascent and revenue from smuggled Iraqi crude began to seep deeper into the economy" (WSJ, 2000).

Our model does a good job in explaining this recent turn of events. As enforcement of the sanctions has become more lax, increased opportunities for smuggling and sanctions rents have further increased Saddam's budget. At the same time the drop in enforcement may improve

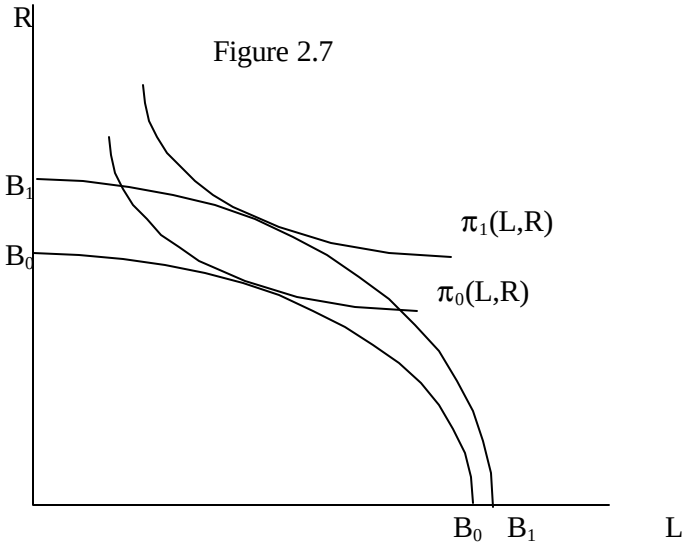
[14] "In 1993, the unofficial inflation rate was running about 4,000 percent over prices in August 1990" (Reuther, 1995, pg. 126).

Iraq's economy decreasing the price of loyalty {see equation (7)}. As the regimes budget

distinction here that power refers to the dictator's employment of power within his own country and not his level of power relative to the rest of the world.

In sum, given the initial state of *q*, our model predicts that sanctions should further hinder any resistance to the regime, increase the budget, decrease the price of repression and have ambiguous effects on P^L, thereby decreasing the price of power. The level of repression should rise along with the level of power while any change in consumption is ambiguous. Graphically, the results are the same as those shown in figure 2.6. Figure 2.7 shows the effects on repression and loyalty. A zero subscript describes the pre-sanctions environment, and post-sanctions results are given a 1 subscript. The levels of power and repression obviously increase; the effect on loyalty is ambiguous.

Figure 2.7



Although our model shows that the sanctions against Iraq have enhanced Saddam Hussein's power and furthered the repression of his people, we do not wish to imply that the sanctions are altogether ineffectual. As Bayard, Pelzman, and Perez-Lopez (1983) have noted, the objectives of sanctions may in part be to slow military development, or simply to show displeasure toward the target government without any intent to cause significant change. The

sanctions against Iraq have certainly diminished Saddam's ability to rebuild his previously formidable war machine despite the Iraqi regime's efforts to smuggle military technology and necessary inputs for weapons of mass destruction. Although the people of Iraq are certainly worse off (some 500,000 deaths have been attributed to the sanctions between 1990 and 1997), the Kurds, Iranians, Kuwaitis and even the people of Saudi Arabia and Israel are surely better off because of Saddam's reduced capacity to terrorize them. (Lopez, 1998).

The economic crisis in the Balkans and Eastern Europe in the eighties combined with the sanctions imposed against Yugoslavia (which was in the process of creating a new state), cultivated the autonomist attitude that led to current Yugoslav President Slobodan Milosevic's rise to power (Woodward, 1995). Further sanctions-induced adversity among the populace had similar effects to those experienced in Iraq; the general public had fewer resources to devote to opposition politics. The professional middle class fled the country, while the economically privileged made large profits by sharing the sanctions rents through smuggling and direct

these results is consistent with stylized facts noted above. In addition, the notion that the Serbs are being "persecuted" by the western industrialized countries has induced the "rally around the flag effect", which lowers the price of loyalty and only increases Milosevic's power. In sum, the sanctions appear to have enhanced the success of the ruling party, as the model would predict.

In Haiti, in the early nineties, the situation was slightly different. When the coup d'etat of 1991 sent President Jean-Bertrand Aristide into exile, the new military leaders forced out a president that was elected with 67 percent of the vote in the 1990 election that drew a record number of voters. Certainly there was strong opposition to the new dictatorship. At the outset, the sanctions had the support of the majority of the Haitian populace (Werleigh, 1995). The early embargoes against Haiti proved to be ineffective because of massive sanctions violations chiefly on the part of the Dominican Republic. This highlights a fact pointed out by Doxey (1982) and Kaempfer and Lowenberg (1998), that as restrictions are tightened, the terms of trade change causes a greater incentive for both smugglers and participating countries to circumvent the sanctions. Relations between the governments of Haiti and the Dominican Republic had historically been very good. If sanctions-busting groups within the target country must buy from and sell to only a few sources, then a larger share of the rents will go to that source. Hence, as a result of the sanctions, firms in the Dominican Republic were able to make huge profits by circumventing the sanctions. It is for this reason that the Dominican government "turned a blind eye toward those violating the embargo" (Werleigh, 1995).

The autocracy, being a military regime on an island, was in an excellent position to gain the sanctions rents. The coup leaders broadened the puppet government establishing more positions for members of political groups in opposition to Aristide, and political repression rose significantly. In 1993, when the UN finally added an oil and arms embargo to the sanctions and

Haitian military leaders to renege on their agreement, the sanctions employed in 1993 should be thought of as successful because they brought the coup leaders to the bargaining table.

Our model can also account for the Haitian situation. Although the level of opposition was high, the groups opposed to the military regime did not control any of the borders or ports and therefore could gain none of the sanctions rents. Therefore, the sanctions could not directly aid the opposition groups ($q_s \cong 0$), and may even have indirectly harmed them. The government gained all of the abundant smuggling profits and repression increased. When more comprehensive sanctions were applied it reduced the rents to all factions, thereby making the government vulnerable. Haiti in 1993 represents the special case where the sanctions were applied (or had the potential to be applied) to the point where the negative effect on the dictatorship's budget due to the decrease in E, the economic performance, outweighed the positive effects on the budget from the few remaining sanctions rents.

V. Conclusions

Virtually all of the sanctions literature that contains explicit models ignores the fact that the majority of sanctions are imposed against autocratic regimes. In addition, most previous works give, at best, anecdotal evidence about the importance of opposition groups. The present paper has reviewed the issue of economic sanctions in the context of a dictatorship model to examine not only the efficacy of the sanctions, but the political consequences in the target country as well. We find economic sanctions may increase the budget of the dictator, and thus strengthen his position, if he is able to gain some of the profits made possible by the change in the terms of trade, which result from the imposition of the sanctions. This is fact has recently become more apparent in light of the effects of sanctions on Iraq and the former Yugoslavia, but our model shows explicitly why these effects occur readily in an autocracy. It has also been demonstrated that if the dictator imposed these changes in the terms of trade himself, he would

incur the costs of enforcement and thus realize fewer net gains. In addition he would experience an increase in P_L that could potentially lead to a loss in power.

cause, and subsequently allowing the autocrat to garner fewer sanctions rents than with multilateral sanctions (Kaempfer and Lowenberg, 1999).

Kaempfer and Lowenberg (1986 and 1988) have shown that sanctions are the result of political pressures in the sanctioning country. If the role of sanctions is to appease certain pressure groups at home, unilateral sanctions may succeed while causing the least amount of harm to the general population in the target country. Again, this is because unilateral sanctions will have smaller terms of trade effects than multilateral sanctions and therefore allow fewer sanctions rents to be gained by the dictator

As noted above, an interesting but rather involved extension would examine the effects of

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