

11.3) or decreasing the blacks' perception of the whites' benefits (column 5, Table 11.3). Let us now assume that the negotiator attempts to increase the black perception of the costs of the whites' concessions to the whites. This change can only be made if the hierarchy for estimating the blacks' perception of whites' costs in Figure 11.2 is changed. The original hierarchy gives

$$\begin{aligned} \text{IL} &= 0.054 \\ \text{PP} &= 0.449 \\ \text{EC} &= 0.288 \\ \text{AW} &= 0.208 \end{aligned}$$

If that hierarchy is changed so that the weight of IL is increased so that the new hierarchy weights are

$$\begin{aligned} \text{IL} &= 0.100 \\ \text{PP} &= 0.427 \\ \text{EC} &= 0.274 \\ \text{AW} &= 0.198 \end{aligned}$$

black perception of white costs increases from 0.033 (column 5, Table 11.2) to 0.045 for the white concession Release Nelson Mandela. Calculations of gains and losses now change as follows:

White concession	Release Nelson Mandela
Black benefits (actual)	0.017
Black perception of white losses	0.045
Total black benefits (0.017×0.045)	
1,000,000 (for removing decimal)	765
Black concession	Protect white political power
Total black loss	
(from Table 11.3)	561
Black gain/loss (765/561)	1.36
White gain/loss (Table 11.3)	1.31

As the two ratios are comparable and greater than 1, the exchange of the white government's concession to release Nelson Mandela for the blacks' agreement to protect whites' political power in the future would be acceptable to both parties.

The crucial part in the negotiation process is therefore the change in the hierarchy induced by the negotiator so that both parties are satisfied. As pointed out earlier, several of the hierarchies considered can be changed to bring the two ratios closer together. The major benefit of the calculation of gains and losses for the various concessions and of their ratios is for the negotiator to see the disparity

between them. If the disparity is too large, rather than consider modifications in any hierarchy, the negotiator might ask for greater concessions from the stronger party. But such knowledge about when to consider a given set of concessions as equal and when to ask parties to give up greater concessions can only be obtained if the estimates of gains and losses are available. Thus, the negotiator is in a unique position because it is to the negotiator that the parties tell about their values and about their perception of the values of their opponent. With this information the negotiator decides what concessions should be placed on the negotiating table. Let us note carefully that what the negotiator learns from both parties to construct the priorities is surmised from what the parties tell him or her. The outcome may be considerably different from their individual evaluations, in which they put perceived judgments about the other party. Thus, the negotiator must always explore with each party the feasibilities developed from the knowledge the negotiator has received from both.

To summarize, a number of alternatives were offered to the negotiator to reconcile the gain-loss ratios of the two conflicting parties. For the purpose of illustration one option was considered, and it was shown that changes in one of the perception hierarchies would reconcile the ratios. The negotiator can explore all the options if, and only if, knowledge about the gains and losses of both parties is available. Let us show how this process is continued.

Including the goals of the negotiator in the process is essential. A number of potential sets of concessions acceptable to both parties may be present; the negotiator must note which sets of exchanges produce balance and then decide which set to use. One set of acceptable concessions, that of the exchange of the white concession Release Nelson Mandela with the black concession Protect white political power, was discussed earlier. A number of other such sets can be constructed by considering each concession in either the black or the white concession list. As this is a tedious, though simple, task, a computer program that generates these sets was used. It is an interactive program that calculates all the concessions B would agree to in exchange for a given concession by A and ranks B's concessions in terms of the exchange preference of B. The program has a number of other features. In case A offers a particular concession that cannot be reciprocated on par by B, the program, in addition to generating a message to that effect, also lists all concessions by B that would lead to the smallest loss for the concession offered by A. In case of the reverse situation, when A's concession is not acceptable to B, the program lists those concessions of B that A would like to have, ranked in the order in which B is willing to exchange them. The program aims at providing all the information in terms of the gain-loss ratios; if a particular set of concessions is acceptable to both parties, or if the set of concessions is not acceptable to one of the parties, the program ranks the concessions in order of least loss for the dissatisfied party. This information can be used by the negotiator to determine where the perception judgments of a party need to be modified and whether it would be useful for the satisfied party to introduce additional concessions not on the list.

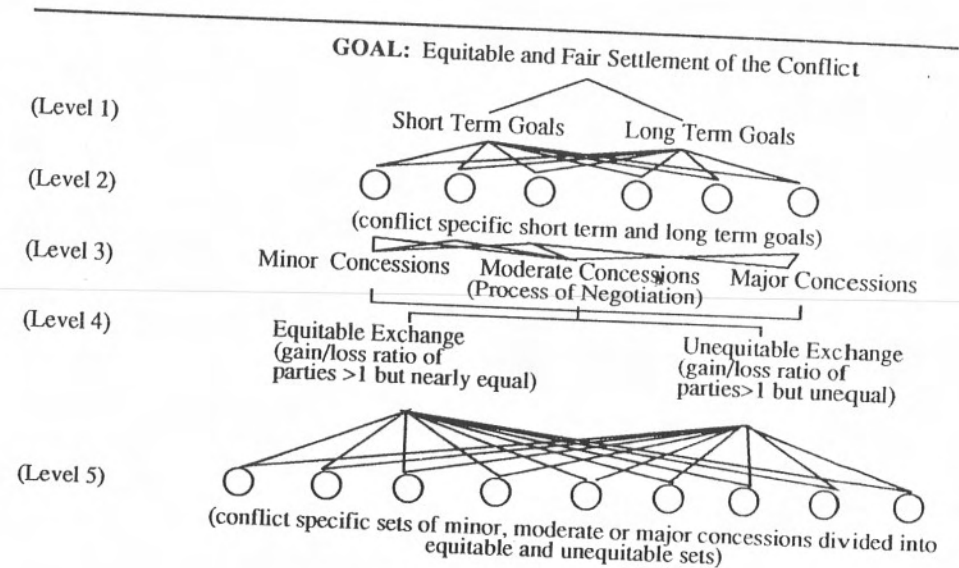
A list of all sets of concessions that are acceptable to both the whites and blacks was constructed using this program. Some of the acceptable sets are (White concession, Black concession): (Release all political prisoners, Blacks agree to power sharing immediately rather than majority rule), (Develop a rational urbanization policy for blacks, Blacks agree to gradual sharing of political power within two years), (Abandon the proposal of new regional councils, All black leaders in South Africa appeal for abandoning violence). Feasible sets of concessions, such as the preceding, were listed exhaustively. They are based on the evaluation of the gain-loss ratios of the parties. Those sets of concessions with ratios sufficiently close to 1 for either party were identified as the workable ones where the negotiator might be able to influence the perceived judgments so that the exchange would become acceptable.

There were a total of 21 such acceptable sets surmised by the negotiator from the parties' judgments. They were then subdivided into two groups depending on whether the gain-loss ratios of both parties were nearly equal, and thus the exchange would be equitable, or the ratios were very different, and one party's ratio was greater than that of the other. This distinction is made because it is assumed that the negotiator is unbiased and therefore equitable concession sets are preferred over nonequitable ones.

As noted, earlier, the negotiator must decide on the sets of concessions to be explored with the parties for total resolution. This decision could depend on a number of factors, for instance, the negotiator's perceptions of the goal of the negotiation process: whether the aim is short-range to stop violence in the region or long-range to increase democratization. A number of factors may transcend the actual conflict. The parties themselves may not be aware of all these factors because each sees its own needs and urgencies but not those of the other and each may suggest that the other should be more patient and flexible. The two dimensions, *emphasis on temporal priorities* (which determines the extent to which the negotiator chooses to emphasize short-term goals, such as diffusing the violent situation in South Africa, over long-term goals, such as black and white coexistence in the region) and the *process of negotiation* (which determines the emphasis of the negotiator on minor concessions from the parties as opposed to persuading them to make major concessions) dictate a general hierarchy in which conflict-specific factors can be incorporated (see Figure 11.3).

The identification of various types of minor, moderate, and major sets of concessions by both parties can be done by analyzing the losses by the parties in making the concessions. For the South African conflict, the concessions of each party were first grouped into three categories. Those that led to maximum losses for a party were taken as major; concessions leading to least losses could be considered as minor; and those that led to losses between these minimum and maximum values were taken to be moderate. (There may be better ways of making the distinctions between the three categories.) The eighteen concessions for each party, discussed earlier, were divided into groups of six each: those

Figure 11.3
Negotiation Hierarchy



leading to the maximum losses, those leading to minimum losses, and those leading to moderate losses.

Next, sets of concessions identified earlier were put into the categories of major, moderate, or minor depending on the extent to which the concessions in a set fell into the corresponding category for each party. For instance, the set of concessions (Release all political prisoners, Blacks agree to power sharing rather than majority rule) identified earlier consists of minor concessions of both parties and thus is a set of minor concessions. On the other hand, the set (Abandon the proposal of new regional councils, All leaders in South Africa appeal for abandoning violence) consists of major concessions by both parties and thus is a set of major concessions. Such a classification of all acceptable sets of concessions in terms of major, moderate, and minor sets was done; these formed the leaf nodes of the negotiator hierarchy.

In addition, each set of minor, moderate, and major concessions was further divided into whether the set had equitable gain-loss ratios for both parties or very dissimilar ratios for them. This additional classification was found necessary because of the earlier assumption that the negotiator is unbiased and therefore would like to see fair exchanges between the parties (even though other exchanges might be acceptable). This desire was implemented by weighting the equitable option higher than the inequitable one.

Nine scenarios for the negotiator were constructed. Since he can focus on

Table 11.5
Grouping Scenarios for Negotiation

	Short-term	Mid-term	Long-term
Appeasing	(1a, 5a)	(1a, 5a)	(1a, 5a)
	(2c, 5a)	(1a, 5b)	(1a, 5b)
	(1a, 5b)	(2c, 5a)	(2c, 5b)
	(2c, 5b)	(2c, 5b)	(2c, 5a)
Moderate	(6b, 6)	(6b, 6)	(6b, 6)
	(1a, 5a)	(1a, 5a)	(1a, 5a)
	(6c, 3a)	(6c, 3a)	(6c, 3a)
	(6c, 4a)	(1a, 5b)	(1a, 5b)
Major	(6b, 6)	(6b, 6)	(6b, 6)
	(6c, 3a)	(6c, 3a)	(6c, 3a)
	(6c, 4a)	(6c, 4a)	(6c, 4a)
	(4c, 5a)	(4a, 2b)	(4a, 2b)

* The numbers and letters in the table correspond to pairs of (White, Black) concessions that can be offered.

short-range, medium-range, or long-range resolution, or on the importance of the concessions, the combinations of the above two-dimensions lead to a particular ranking of the 21 sets of concessions. The top four concession sets for each scenario are shown in Table 11.5.

The sets of concessions that the negotiator should strive to exchange depend upon whether short-term or long-term goals are emphasized in the process of negotiation that is followed. For instance, a focus on short-term goals with an emphasis on minor concessions from the parties requires striving to exchange the whites' concession of releasing all political prisoners with the blacks' concession of agreeing to share political power rather than insisting on majority rule. On the other hand, a long-term and major concession requires the negotiator to strive for the exchange of the whites' concession of making a declaration of intent to grant citizenship to blacks after two years with the blacks' concession of agreeing to cooperate for economic growth in the region.

The results of this analysis can be used to propose a series of steps that could be effective in bringing the blacks and the whites closer together. Because of the intense nature of the conflict with violent actions by both parties coupled with a lack of belief that the white government would institute "real" reform, the immediate concern may be to decrease hatred and establish trust between blacks and whites. This is clearly a short-term goal. Thus, the exchange of the white government's concessions of releasing all political prisoners or inviting all black

political leaders except Nelson Mandela (unless he condemns violence) to a national convention in return for the black majority's concession of agreeing to share political power rather than insisting on majority rule should be the focus of negotiations. Over the long run, to ensure that the process of reform continues, moderate concessions producing results in the near term (midterm goals) are needed. Therefore the negotiations should focus on the white government's agreeing to grant political freedom to the blacks at some time in the next two to five years and the blacks agreeing to stop the boycott of white businesses (one of the most effective black "weapons") and also cooperating on the economic growth of the region. Finally, a long-term perspective with major concessions by both parties requires that the white government agree to the previous concessions and stop relocating blacks to Bantustans (homelands). The black majority, in addition to the previous concessions, should agree to protect white political power.

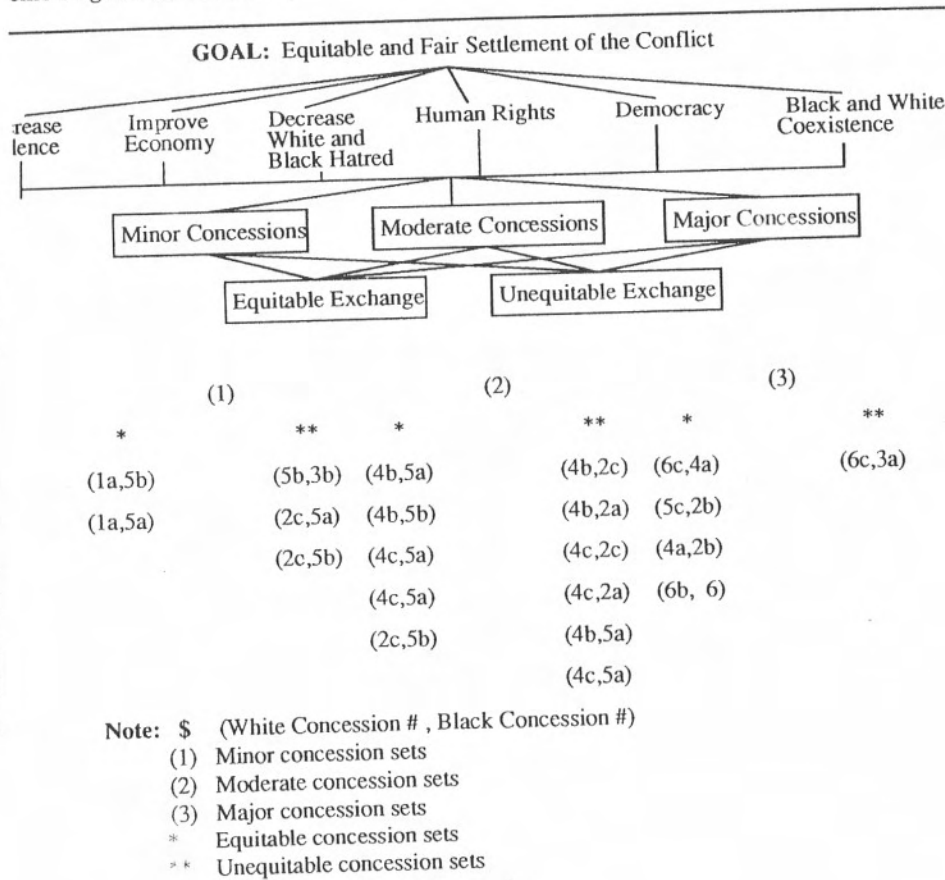
In proposing this solution we have moved along the right diagonal (diagonal from the top right corner) of Table 11.5. This need not be the case for other conflicts. For instance, if the conflict is moderate without an extreme polarization of the parties' interests, the midterm goals may be emphasized directly. Thus, the path to be taken through Table 11.5 would depend on the nature of the conflict.

Using the hierarchy established here, a number of different options are available to the negotiator. Although the hierarchy identifies the major decision-making parameters, the negotiator's own goals and perceptions can be implemented in other parts of the negotiation process. For instance, rather than believing the estimates of gains and losses by the parties to be the true values, the negotiator could attempt to estimate the "true" value depending on his or her own perceptions of the parties. Thus, two hierarchies could be constructed, one for each of the parties, in which the gains and losses from concessions are modified by the negotiator. The negotiator now uses his or her perceptions of gains and losses to evaluate the sets of acceptable concessions. Such modifications depend to a large extent on the specific situation. Other similar roles for the negotiator in the context of other conflicts are under study.

It is useful to add, once more, that this model of conflict resolution in South Africa and the identification of sets of concessions that might be acceptable to both parties should be taken as an illustration of the process of negotiation rather than as a normative model for resolving the South African conflict. The judgments used in the model are those of the researchers and, while a strong attempt has been made to view the situation from the point of view of the conflicting parties, the lack of actual judgments in the model might make some of its results seem less pertinent. But the aim has been to apply the proposed conflict resolution model to a situation that is not only complex but is critically in need of a solution to prevent what has been called an inevitable blood bath in the region.

Figure 11.4 is an illustration of what our calculations indicate is an equitable and fair settlement for this exercise.

Figure 11.4
Conflict Negotiation Hierarchy

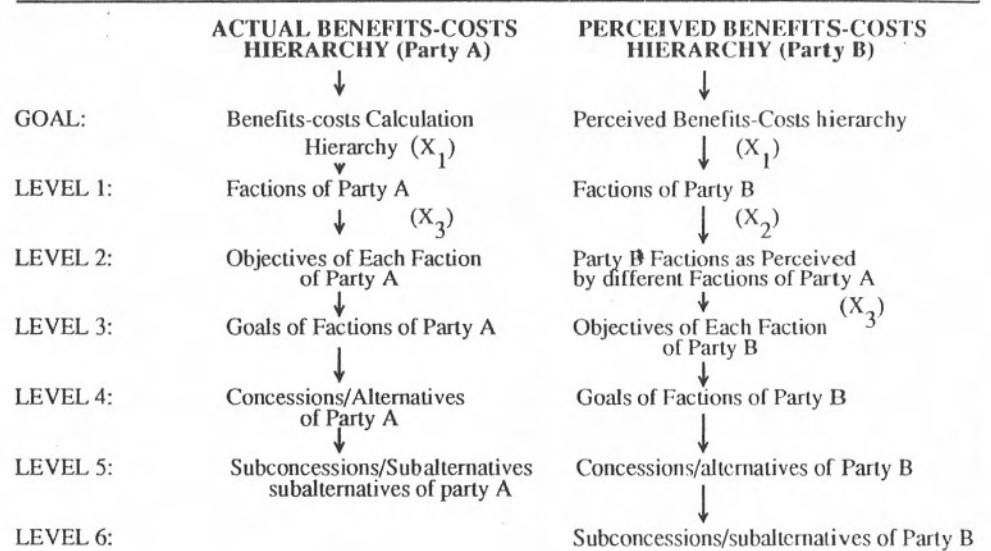


THE MANY-PARTY PROBLEM FOR BLACKS AND WHITES

Let us now examine the many-party problem. We call the different parties factions. Previously we used two general kinds of hierarchies for each party: one to estimate its actual benefits and the other to estimate its costs as perceived by the opponent. Both hierarchies have the general form of Figure 11.5. (They are also used to estimate the relative power of the factions on each side.)

Factions of each party are thus included at level 1 or level 2 in the hierarchies. Note that the actual and perceived hierarchies are different. In the perceived hierarchy each faction of party A has different perceptions about the factors of party B, particularly about their relative strengths; however, perceptions about the goals and objectives of party B are not required for its own calculations by

Figure 11.5
Actual and Perceived Benefits-Costs



party A. Thus, the perceptions hierarchy is deeper by one level as compared to the hierarchy for calculating the actual benefits and costs.

The links in the hierarchies, labeled X₁, X₂, and X₃, for example, give rise to judgments about the relative strengths of different factions. For instance, X₁ gives judgments about the relative importance of party A factions, and X₂ gives judgments about the perceptions of factions of party A with regard to relative strengths of factions of party B. Similarly for the other links: for example, X₃ is the importance of different objectives of party A and party B.

Two parties for each of the black majority and the white government were identified. Moderates, including Bishop Desmond Tutu, Chief Buthezi, and Reverend Alan Boesak, and Nationalists, consisting of the ANC and other youth leaders, constituted the factions for the blacks. The white minority actually consists of Afrikaanders (60 percent) and Anglos (40 percent). While the Afrikaanders belong mainly to the ruling Nationalist Party, the Anglos belong primarily to the Progressive Federal Party. But recently President P. W. Botha's Nationalist Party has been facing a strong political challenge from another Afrikaander-led party, the Reconstituted National Party, which desires harsher actions to curb black unrest and protect the whites. Thus, moderates, including Botha, and radicals, consisting of Afrikaanders, who demand only white majority rule, were the factions considered for the whites.

The black Nationalists as compared to the black moderates were considered moderately more powerful. The white moderates led by Botha, on the other

Table 11.6
Revised White Concessions

	WHITE COSTS	WHITE PERCEPTION OF BLACK BENEFITS	TOTAL WHITE LOSS	BLACK BENEFITS	BLACK PERCEPTION OF WHITE COSTS	TOTAL BLACK GAIN
1. Release All Prisoners	.035	.017	595	.01	.017	170
Release Only Mandela	.061	.028	1708	.016	.030	480
2. Invite All	.059	.049	2891	.047	.037	1739
Invite Only Tutu	.008	.007	56	.007	.006	42
All But Mandela	.029	.024	696	.023	.018	414
3. Remove Apartheid						
In Buses, Trains	.013	.01	130	.007	.007	49
At Beaches	.013	.01	130	.007	.007	49
Others	.066	.051	3366	.030	.039	1170
4. More Autonomy	.112	.137	15,344	0.100	.129	12,900
Solve Urban Black	.022	.028	616	.021	.026	546
No Relocation	.022	.027	594	.021	.026	546
5. Decentralize Industry	.04	.065	2600	.052	.045	2340
Black Education	.012	.019	228	.017	.014	238
Give Greater Money In Budget	.083	.134	11,122	.108	.094	10,152
6. Give Citizenship Shortly	.204	.188	38,352	.256	.242	61,952
In 1 - 2 Years	.173	.160	27,680	.218	.204	44,472
In > 2 Years	.049	.045	2205	.059	.057	3363

Table 11.7
Revised Black Concessions

	WHITE BENEFITS	WHITE PERCEPTION OF BLACK	TOTAL WHITE GAIN	BLACK COSTS	BLACK PERCEPTION OF WHITE BENEFITS	TOTAL BLACK LOSS
1. No Trade Barriers	.100	.043	4300	.038	.051	1683
No Military Sanctions	.043	.018	774	.015	.023	345
No Disinvestment	.251	.110	27610	.084	.129	10836
No Sullivan Principles	.029	.009	261	.056	.086	4816
2. Mandela Appeal For Non-Violence	.023	.025	575	.055	.056	3080
All Leaders Appeal For Non-Violence	.116	.125	14500	.111	.112	12432
ANC Agrees to Non-Violence	.023	.025	575	.055	.056	3080
3. Stop Boycott of White Business	.060	.052	3120	.064	.046	2944
No Strikes	.017	.016	272	.032	.023	736
Stop School Boycotts	.017	.014	238	.032	.023	736
No Threats by Unions	.029	.025	725	.032	.023	736
4. Protect White Political Power	.101	.076	7676	.068	.034	2312
Protect White Investments	.022	.018	396	.017	.009	153
No Retaliations	.029	.021	609	.017	.009	153
5. Grant Citizenship Immediately	.021	.108	2268	.051	.081	4131
Between One & Two Years	.021	.108	2268	.051	.081	4131
In Greater Than Two Years	.021	.108	2268	.051	.081	4131
6. Co-operate for Economic Growth	.079	.101	7979	.177	0.078	13806

hand, were considered more powerful than the radicals in terms of their ability to influence resolution of the conflict.

The aggregate results from the eight hierarchies are shown in Tables 11.6 and 11.7. The calculation of gains and losses corresponding to each concession by the blacks and whites is also shown in these tables. A comparison of these estimates of gains and losses with those made earlier where no factions were considered is interesting. In general, white losses, from the second half of the set of concessions (Decentralize industry, Black education, Give citizenship, and so on) increase because the previous calculations did not incorporate the extreme view of the radicals. Thus, because the radicals believe that such major concessions can be disastrous for white rule, the overall estimate of losses for the whites from their major concessions increases. Including different black factions has a distinct effect on the estimate of black losses from their own concessions. Black losses from their major concessions, like Protect white political power, Protect white investments, and so on, radically increase because black Nationalists believe in only black majority rule and are not ready for any solution with power sharing.

As was done in the single-party and no-factions case, estimates of gains and losses were further analyzed through a computer program to calculate the sets of black and white concessions that would be acceptable to both parties by examining each individual concession and attempting to match it with a concession of equal value from the other side. There were a total of 20 sets of such acceptable concessions. These sets now formed the bottom-level nodes of the negotiator hierarchy to determine which exchanges are more preferred, taking into account the negotiator's subjective judgment about the situation. The six negotiator scenarios for the two dimensions of long-term versus major concessions were derived. Partial results showing four sets of concessions for each scenario are shown in Table 11.8.

The results of this analysis are very different from the earlier case. A focus on short-term goals with an emphasis on minor concessions from parties requires striving for exchange of the concession that the white government invite all political leaders and, conditionally, Nelson Mandela, for a convention with the concession that blacks agree to stop all strikes. On the other hand, a focus on long-term and major concessions requires the negotiator to strive for the exchange of the whites' concession to decentralize industries to black homelands with the blacks' concession to agree to power sharing gradually rather than insisting on black majority rule.

Rather than discuss in detail the path that can be followed by a negotiator in terms of emphasis on short-term versus long-term goals and the emphasis on nature of concessions (see Saaty, 1988, for a detailed discussion), we analyze the predictions of this model against an actual series of reforms to be introduced in South Africa. Mr. Botha has abolished the pass law so that blacks can freely move around in cities. This white concession is incorporated in concessions 4b and 4c in Table 11.1.

Table 11.8
Concessions in Scenarios and Time Horizons

	Short term	Emphasis on goals	
		Mid term	Long term
Appeasing	(2c, 3b)	(2c, 3b)	(2c, 3b)
	(2c, 3c)	(2c, 3c)	(2c, 3c)
	(5a, 5b)	(5a, 5b)	(4c, 1d)
	(5a, 2c)	(4c, 1d)	(5a, 5b)
Process of Moderate Negotiation	(5a, 2c)	(5a, 2c)	(5a, 2c)
	(5a, 2a)	(5a, 2a)	(5a, 2a)
	(2c, 3b)	(4c, 1d)	(4c, 1d)
	(4c, 1d)	(2c, 3b)	(2c, 3b)
Major	(5a, 5b)	(5a, 5b)	(5a, 5b)
	(6c, 3a)	(6c, 3a)	(6c, 5b)
	(6c, 5b)	(6c, 5b)	(6c, 3a)
	(2c, 3b)	(2c, 3b)	(2c, 3b)

* The numbers in the table correspond to the white concession that can be exchanged with the black concession as described in Table 11-1.

The model predicts that an exchange of each of these concessions would be acceptable to both parties if the blacks agree to stop strikes or school boycotts. The increasing violence in South Africa is known to be one of the reasons for the introduction of such a reform by President Botha. This is in accordance with the model's prediction that such a reform could be exchanged for a decrease of black violence in South Africa. Though the specifics of such exchanges are not available to us for comparison, the correspondence in the nature of exchange, and the prediction that such an exchange would be feasible and acceptable to both parties, is encouraging. Even with the judgments of the researcher, the usefulness and partial validity of the model is established.

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12

Free-Trade Discussions between Canada and the United States

BACKGROUND

The United States and Canada are engaged in free-trade discussions. The issues are critical between these two friendly neighbors. What are these issues and how should they be negotiated?

Free-trade negotiations between the United States and Canada, the world's two largest trading partners, have enormous potential for the two countries. In 1984 the United States and Canada exchanged \$118 billion (U.S. dollars) worth of goods. The United States sells more to the province of Ontario than it does to Japan or to all of Western Europe; and Canada sells 80 percent of its total exports to the United States and is more threatened by U.S. protectionist measures than is any other country. In fact, in 1984, the growth of Canada's exports to the United States was more than its total exports to Europe and Japan (*Canada Today*, 1985).

Canada's export-led economic recovery after the 1981-82 recession was mainly due to an increase in manufactured products, rising from 29 percent of Canadian exports (by value) in 1981 to 42 percent in 1984. This means that Canada's industrial competitiveness now matters much more than previously. Furthermore, Canada's reliance on the U.S. market is increasing at a time when the risk of U.S. protectionism is growing. Free trade, as argued by its proponents, has the potential of making Canadian industries more competitive (Canada's unit labor costs are 27 percent higher than that of the United States; output per hour in Canadian manufacturing has been stagnating in the last seven years while rising in the United States and Japan, and output per worker in Canadian manufacturing is 25 percent lower than in the United States), and of preventing Canadian exporters from being shut out of the U.S. market. Canada is the only industrial country of its geographic size that is not assured access to markets in the United States, Japan, or Europe (*The Economist*, February 15, 1985).