

An SD Approach for Assessing an Eventual Peace Process in Colombia

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ABSTRACT

The Colombian conflict has been lasting for over 45 years and no expert on the topic foresees peace within the near future; however, very little research has been conducted intending to evaluate the positive impact that peace may have in society if it eventually occurs.

A recent scenario exercise, Destino Colombia (DC), provides four qualitative scenarios for Colombia, but little can be inferred from them in terms of a quantitative assessment of the improvement or deterioration of the situation. However both a parallel study, under an econometric methodology, and the one reported here, taking an SD approach to modelling, have supply qualitative indications on some of the outcomes of the DC scenarios.

In this paper we present results of two of the DC scenarios, which indicate likely credible benefits, in case that they occur, in terms of life savings and reductions in number of clashes in the conflict as well as in The authors believe that GDP improvement, budget reallocation for education, health and justice.

The results found in this research may provide further grounds for speeding the peace process, as it shows figures of the consequences, in case that the conflict continues, or the likely benefits, in case that the conflict stops. Compare to the econometric approach, the dynamics exhibited in this research may create a more believable story for the scenarios exercise.

Introduction

"El futuro no se hereda, pero tampoco es una condena. El futuro se sueña y se construye. Es la voluntad común de los pueblos la que orienta el camino de las naciones. En la alborada del tercer milenio es posible crear una visión del país fundada en ciertos consensos básicos y por lo tanto, construir en la diversidad, basados en la confianza reciproca." (Destino Colombia, 1998)

1 System Dynamics Modelling

A system Dynamics model has been built for analysing alternative scenarios for the war conflict in Colombia (Ariza and Dyner, 1999). The Influence diagram in Figure 1 shows how effective a peace negotiation process may be, although other factor work against it, as can be appreciated in Figure 2.

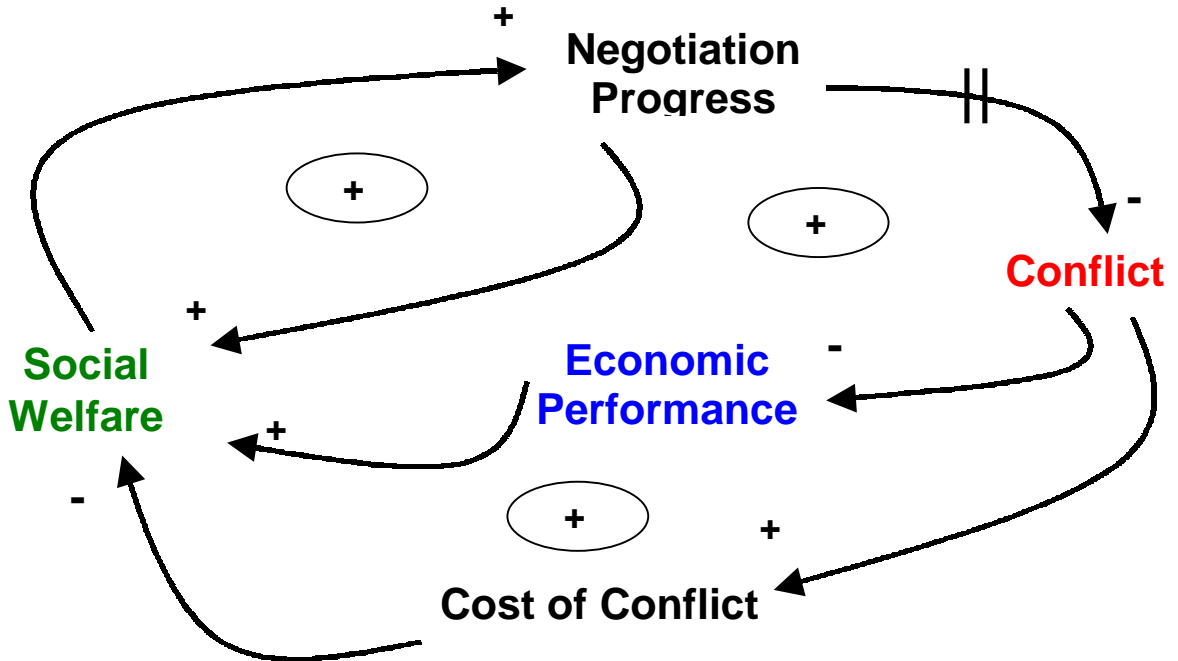


Figure 1. Factor favouring peace talks

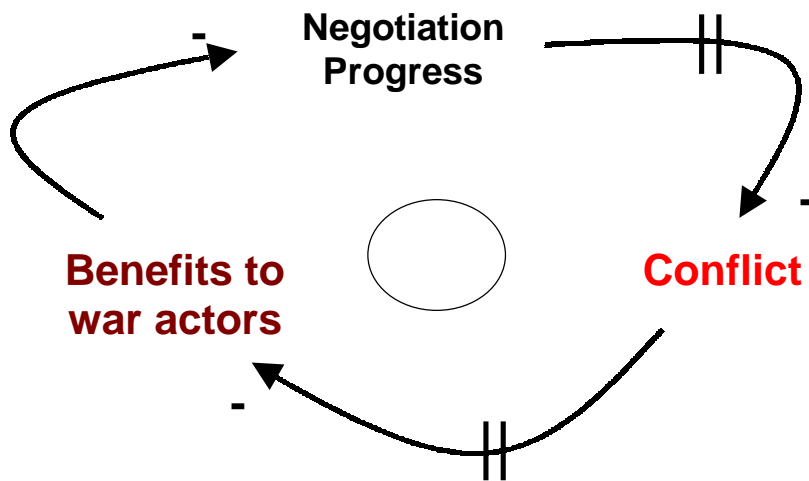


Figure 2. Factor against peace talks

2 Scenarios and Simulation results

Two extreme scenarios have been built: An optimistic one, in which war actors are more incline to peace talks and the opposite one, a pessimistic scenario, where authors adopt a more short-term view to the conflict.

Under the first scenario, although in the short term the conflict escalates slightly, in the long term war actions, international help and costs associated with the conflict improve considerable, as can be appreciated in Figures 3, 4 and 5.

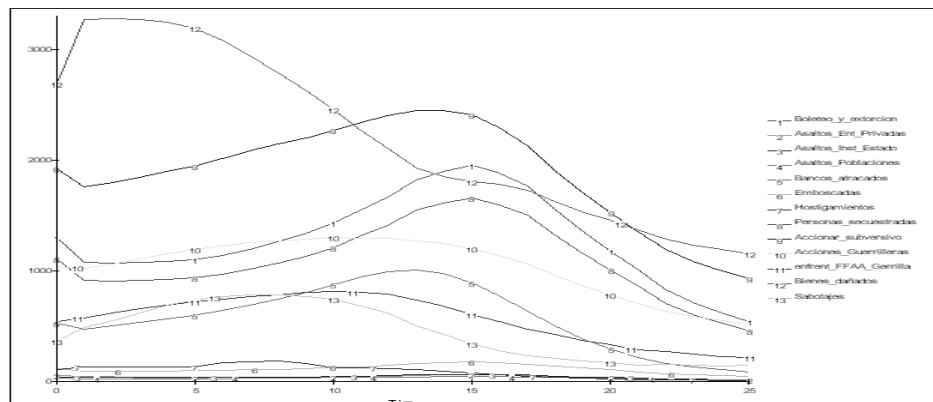


Figure 3. War actions under an Optimistic scenario

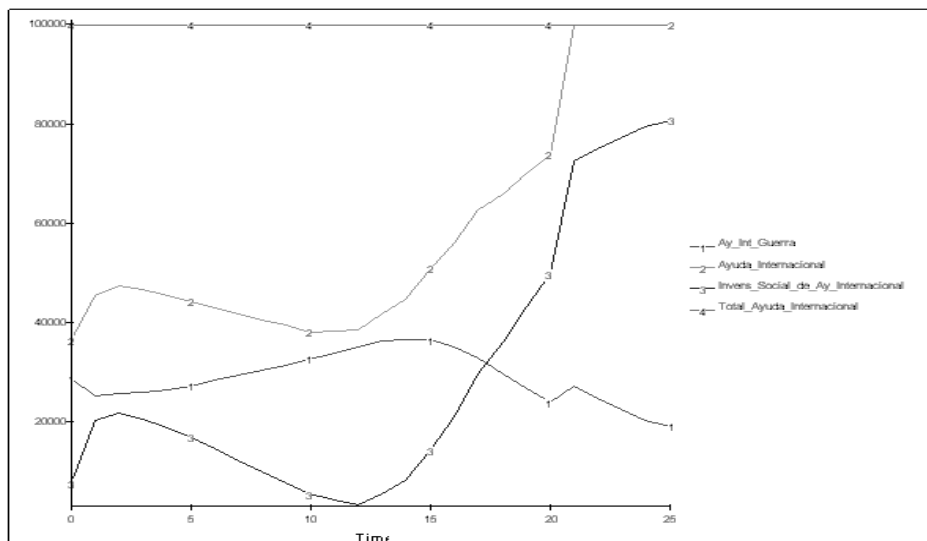


Figure 4. International aid under an optimistic scenario

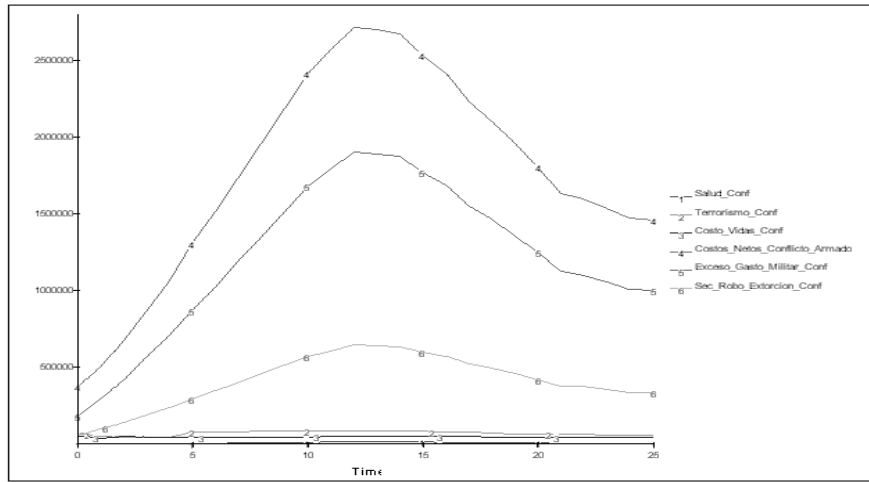


Figure 5. Costs of war under an optimistic scenario

Under the pessimistic scenario one can observe a continuous deterioration of indicators. Figure 6 provides an example of the evolution of the different indicators analysed for this exercise.

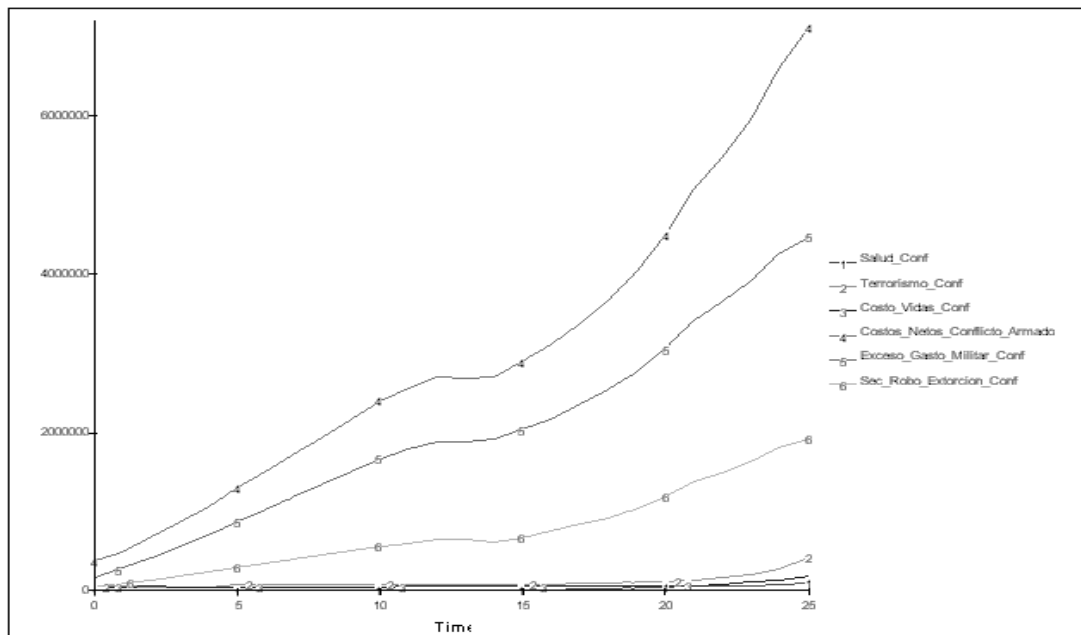


Figure 6. Costs of war under a pessimistic scenario

An SD model allow us to establish the consequences of either situation in terms of: costs of war, quality of life indicators, % of GDP and men at war as ca be appreciated in Table 1.

Scenario	Cost of war	Quality of life	%GDP	Men at war
Optimistic	7% of 1999	Up 200%	1%	50.000
Pessimistic	Up 100%	Down 250%	25%	4.000

Table 1. War indicators under optimistic and pessimistic scenarios

3. Conclusion

SD has helped assessing both the advantages of peace talks and the disadvantages of continuing war in terms of human lives, development indicators as well as in terms of quality of life indicators.

References

Destino Colombia, 1998. Proceso de planeación por escenarios, Bogotá.

Ariza R. and I. Dyner, 1999. Creación con dinámica de sistemas de escenarios que simulan posibles comportamientos del conflicto armado en Colombia. Revista Armada, 76, pp. 51-62. (In Spanish)