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A public choice analysis of the United Nations system: A case study in the new international political economy

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COLLEGE OF SOCIAL SCIENCES

A PUBLIC CHOICE ANALYSIS OF THE UNITED NATIONS SYSTEM: A CASE STUDY IN THE NEW INTERNATIONAL POLITICAL ECONOMY

By

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I dedicate this book to the memory of my mother
and to my wife Terri whose love and
encouragement have meant the world to me.

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ABSTRACT

This dissertation applies modern public choice theories to the United Nations system. Public choice is the study of public sector decision making using basic economic postulates. The field of public choice attempts to gain insights into the formation and operation of collective organizations by studying the personal incentives faced by the relevant decision-makers. For many years, people have pointed to the apparent failure of international organizations to achieve their goals. The public choice approach offers new insights into the reasons for this failure, and it can also be used to suggest improvements which might enable these international organizations to be more successful.

There are several separate, but related, chapters in this dissertation. Chapter 2 analyzes the U.N. Charter and the League of Nations Covenant using the principles of constitutional economics. Chapter 3 analyzes the size and growth of the budgets of the U.N. system. Chapter 4 considers whether the de facto members of GATT, who receive the benefits without contributing to the budget, are true free riders. Chapter 5 looks at the stability of international voting coalitions in the U.N. General Assembly from 1946 to 1973.

Finally, Chapter 6 looks at the effectiveness of specific U.N. interventions, such as peacekeeping forces in Lebanon and sanctions against South Africa. This chapter uses exchange rate data to estimate the appreciations (or depreciations) caused by these interventions, and considers those movements a measure of the degree of effectiveness of the policy.

CHAPTER 1

INTRODUCTION: PUBLIC CHOICE AND INTERNATIONAL ORGANIZATIONS

I. The New International Political Economy

This dissertation applies modern public choice theories to the set of international organizations that are broadly considered to be the United Nations system. Public choice is the study of public sector decision making using basic economic postulates. The field of public choice attempts to gain insights into the formation and operation of collective organizations by studying the personal incentives faced by the relevant decision-makers. Only recently, however, have public choice economists expanded their scope of analysis into the international arena under the title of the "New International Political Economy". Two major contributions to this literature are Mendez (1992) and Vaubel and Willett (1991). Mendez's *International Public Finance* is an example of classic public finance analysis applied to the international arena. In his book, Mendez writes about free rider problems, externalities, and other issues which justify his position of

desiring a much stronger United Nations which holds the power to tax, redistribute income, regulate the global commons, and provide public goods on an international basis.

Vaubel and Willett are the editors of a collection of works contained in *The Political Economy of International Organizations*. This book is one volume in *The Political Economy of Global Interdependence Series* edited by Thomas D. Willett. While other volumes in this series contain important contributions which are also mentioned in chapters in this dissertation, *The Political Economy of International Organizations* is by far the most broad-based collection of public choice applications in the international arena. This work is mainly a collection of articles describing basic public choice theory and how it may be applied to international organizations. This volume contains theoretical chapters, as well as applications of public choice in analyzing international organizations such as the European Community, the International Monetary Fund, and GATT. Their approach concentrates upon the role of bureaucrats, special interests, and institutional structure in the shaping of international organizations. For many years, laymen and theoreticians alike have repeatedly pointed to the apparent failure of international organizations to achieve their goals. The public choice approach offers new insights into the reasons for this apparent failure of international organizations using theories traditionally applied to national

governments. Public choice theory can also be used to suggest improvements which might enable these international organizations to be more successful. This dissertation builds upon the work of these authors and extends it specifically to the United Nations system.

Not only can public choice/public finance analysis add to our understanding of international organizations, but international organizations can also provide a fresh testing ground for many public sector theories. The United Nations itself is not only one such international organization, but it is the largest and possibly the closest to an international government. The United Nations system as a whole is a collection of many separate but related organizations that includes not only the U.N. Organization itself, but also 18 specialized agencies and over 20 other voluntary programs. While the specific organizations will be discussed later, any study of the United Nations must take into account the many-faceted nature of the system. Some of the organizations derive revenues solely from voluntary contributions, while others assess members a certain percentage of the budget. Because of the competitive nature of international organizations they also tend to be specialized. Some concentrate on designing regulatory guidelines for the global commons, others deal mainly in international income redistribution. But perhaps the most interesting aspect is that membership is completely voluntary and a country may be

a member of only the organizations which it wishes. The absence of clearly defined political parties, the voluntary nature of membership, the use of weighted voting schemes or unanimity requirements, and the differing methods of financing are just a few of the characteristics of international organizations which make them an interesting testing ground. This dissertation also attempts to test some implications of public sector theories by seeing how these different institutional structures influence the outcomes in international organizations.

II. The Origin and Membership of the U.N.

The League of Nations was the precursor of the United Nations. It was established in 1919 by the Paris Peace Conference as part of the Treaty of Versailles. The document creating the League, the Covenant, was included in the peace treaty ending World War I as an attempt to prevent another devastating world war. While some of the League's work in the areas of humanitarian and economic assistance was successful, it failed in its main objective of preventing another world war. Because of this failure, the League was formally dissolved in 1946 and its assets transferred to the United Nations. Chapter 2 of this dissertation provides a more

in-depth analysis of the League's failure and how it influenced the structure of the United Nations.

There were many international meetings and conferences that were involved in the creation of the United Nations. The Inter-Allied Declaration and Atlantic Charter, both during 1941, the Declaration by United Nations during 1942, the Moscow and Teheran Conferences during 1943, and the Dumbarton Oaks and Yalta Conferences of 1944, all played important roles in the formation of the United Nations. The culmination of these efforts was the San Francisco Conference of 1945, also known officially as the United Nations Conference on International Organization, where the document forming the United Nations, the U.N. Charter, was adopted on June 25th. The Charter officially came into force on the 24th of October 1945.

There were 51 original members of the United Nations, and as of January 1994, membership had grown to 184 nations. Appendix A contains a list of the member nations of the United Nations with the dates of their accession. Figure 1.1 shows the growth in the United Nations membership from 1945 to 1992.

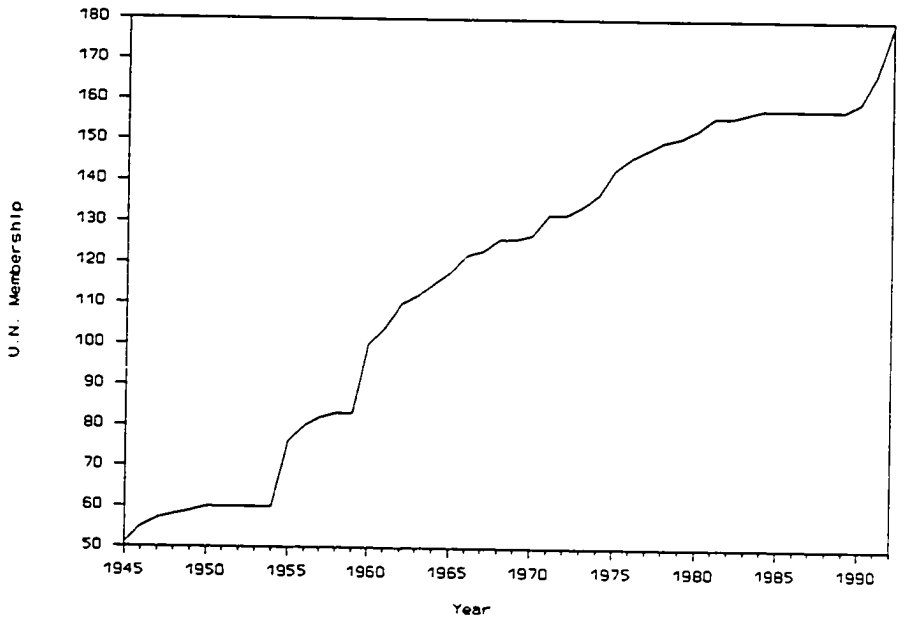

Figure 1.1 -- United Nations Membership, 1945-1992.

The rapid expansion in membership during the early 1960s was almost entirely due to France granting independence to its former African colonies. Additionally, the growth during the early 1990s is primarily due to the breakup of former Eastern-European nations. The collapse of the former Soviet Union alone created 9 new member nations. Interestingly enough, this has led to a quadrupling of the voting power of the former Soviet Union in the General Assembly. Prior to the collapse, the Soviet republics of Byelorussia and Ukraine, as well as the Soviet Union, had voting rights in the U.N.

General Assembly, but now the former republics together account for 12 votes.

Membership in the United Nations, and the Specialized Agencies is voluntary. For example, Switzerland and Vatican City have opted out of membership in the United Nations, but both have observer status (the Palestine Liberation Organization also has observer status). The ability of member nations to withdraw serves as a check against these organizations. For example, the United States withdrew from two specialized agencies, UNESCO and the ILO, because of dissatisfaction with their operations. The United States has, however, rejoined the ILO.

III. The Structure of the United Nations System

The United Nations system is divided into six principal organs, each with its own responsibilities and powers. A diagrammatic depiction of the structure of the U.N. is given in Figure 1.2. It includes the principal organs of the United Nations (in boxes), a representative list of United Nations programs and organs (marked by >), specialized agencies and other autonomous organizations (marked by =), and other commissions, committees and ad hoc and related bodies (marked by .). Appendix B contains a listing of all abbreviations in this dissertation.

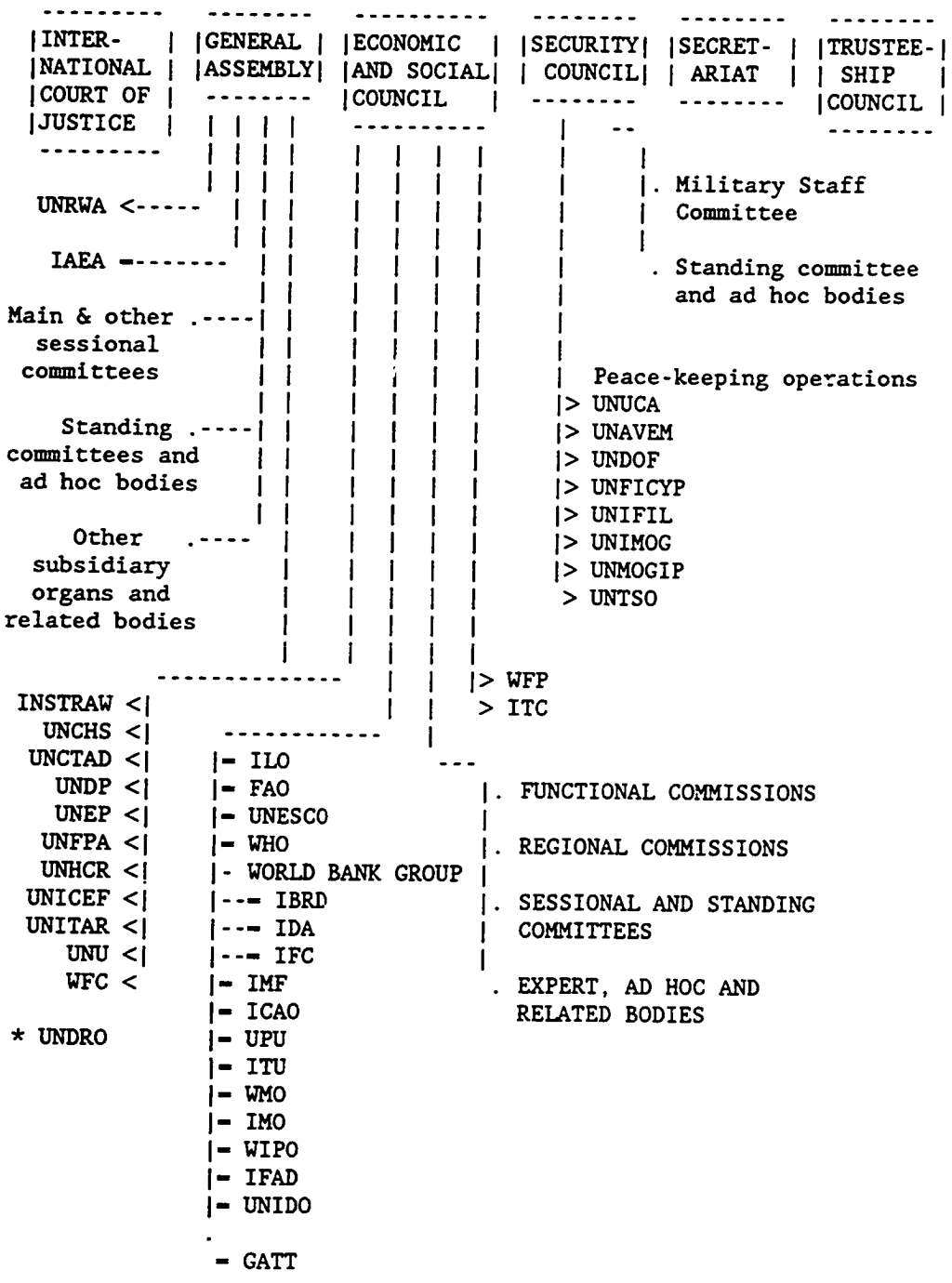

Figure 1.2 - Structure of the United Nations System

The General Assembly is the main deliberative organ of the United Nations. Each member nation is given one vote in the General Assembly. Most decisions are made by simple majority. Decisions on "important questions", such as the admission of new members and the budget, must be decided by a two-thirds majority. Except for decisions on the scale of contributions, the General Assembly can only recommend (i.e. its decisions are not binding upon member nations).

The Security Council has the primary responsibility for maintaining international peace and security. It oversees and controls the peace-keeping operations of the United Nations. It is composed of 15 members: five permanent (China, France, the Russian Federation, the United Kingdom, and the United States) and 10 elected by the General Assembly for two-year terms (during 1993: Brazil, Cape Verde, Djibouti, Hungary, Japan, Morocco, New Zealand, Pakistan, Spain, and Venezuela). Each member of the Security Council has one vote. Most decisions require the affirmative votes of all five permanent members and any other four non-permanent members, giving the permanent members veto power in this organ. If a permanent member abstains from voting, however, it does not count as a veto. The Security Council is the only organ of the United Nations whose decisions are binding upon the member states.

The Economic and Social Council oversees and coordinates the work of the Specialized Agencies, as well as the humanitarian work of the United Nations Organization itself.

As of 1992, this organ had 54 members who each serve three-year terms. Decisions in this organ are made by a simple majority of the 54 member nations.

The Trusteeship Council supervises the trust territories of the United Nations. It is composed of the five permanent members of the Security Council. Decisions are reached by simple majority. The International Court of Justice is the judicial organ of the United Nations system. All nations of the world may use this court to decide matters covered by international law and treaties.

The Secretariat is headed by the Secretary-General who is elected for a five-year term by the General Assembly. The Secretary-General and his staff of approximately 25,000 compose the Secretariat and they are responsible for the daily operations of the United Nations.

IV. Outline of the Dissertation

The second chapter of this dissertation discusses the U.N Charter and the League of Nations Covenant within the framework of international constitutions. The success of these organizations will be linked to the rules set forth in their constitutions. This chapter also develops a graphical model, based upon social contractarian theory, to aid in explaining the failure of the League of Nations.

Chapter three discusses the budgets of the U.N. system. It gives a general overview of this decentralized fiscal system, showing the distribution of expenditures by both source and function. Trends in expenditures are analyzed, and theoretical propositions regarding the size and growth of the budgets are discussed in relation to the actual data. The budgetary reforms that occurred during the 1980s are also discussed in terms of their evolution and impact on the U.N. budget.

Chapter four analyzes free riding on international organizations, specifically GATT. There are a set of countries who receive the benefits of GATT without contributing to the budget and without being bound to reciprocate trade barrier reductions. An empirical model is used to ask whether these countries would be willing to join (at full cost) if forced with exclusion from the benefits of GATT. These results are then interpreted as a quantifiable measure of the free rider problem in GATT.

Chapter five discusses one of the most important issues in public choice theory, political stability. This chapter uses use data on cross country voting correlations in the U.N. General Assembly to assess the stability of voting coalitions from 1946 to 1973. The lack of clearly defined political parties and the more than doubling of U.N. membership during this period make it an even more interesting context in which to study political stability. This chapter uses data on the

frequency and degree of coalitional changes to measure the degree of stability in the United Nations in light of the body of literature on political cycling.

Chapter six analyzes the effectiveness of specific U.N. interventions, such as peacekeeping forces in Lebanon and sanctions against South Africa. This chapter uses exchange rate data to estimate the appreciations (or depreciations) caused by these interventions, and considers those movements a measure of the degree of effectiveness of the policy. Specific public choice theories about the effectiveness of these interventions are also discussed in light of the estimated results.

Chapter seven is the conclusion of the dissertation, in which the results from the preceding chapters are summarized, and combined into a more general overview of the U.N. system. This chapter also discusses many further avenues for research generated from the techniques and findings of the previous chapters.

CHAPTER 2

THE LEAGUE OF NATIONS COVENANT AND THE UNITED NATIONS CHARTER: AN ANALYSIS OF TWO INTERNATIONAL CONSTITUTIONS

I. Introduction

The Charter of the United Nations serves not only as the document that created the United Nations Organization itself, but also as an international constitution. The direct predecessor to the United Nations was the League of Nations, and it too had a similar document called the Covenant. This chapter discusses these documents using the principles of constitutional economics in order to provide possible explanations for the existence, success, and particular provisions of these documents. These two documents establish a set of principles and laws intended to promote orderly conduct among nations. They determine the powers and duties of the international organization while attempting to guarantee certain rights to the member nations. These rights are extended through restrictions on the actions of the international organization and of other nations. Their

purpose is to contractually bind a set of nations to rules that enhance the well being of all individuals and to provide for the enforcement of these rules. Viewed in a contractarian framework, the League of Nations Covenant and the Charter of the United Nations are international constitutions.[1]

II. A Developmental Model of International Constitutions

At the national level, there has been much work on how governments and social contracts might be produced naturally from a state of anarchy. Buchanan (1975, 1990) discusses how people in a state of anarchy will agree to a social contract because of the potential production gains from the freeing of resources previously used for protection. Nozick (1974) also describes the process by which protection "firms" in an anarchist society will evolve into a government, called the minimal state, because of economies of scale in the provision of protection. The governments created by these social contracts will attempt to fulfil the demands of their constituencies and/or their leaders, whether those demands be for the provision of public goods or the aggressive taking of property from other nations. In a world characterized this type of international anarchy there will exist much the same

[1] Frey and Gygi (1991) discuss the constitutional rules that would be favored by self-interested delegates and those that would be favored by national citizens.

situation as in the national anarchy described by Buchanan. Constituents of national governments will find that they must devote resources to protect their property rights, not only from other national citizens, but also from the citizens of other countries and other governments. It is clear that there are further gains to be exploited if the constituencies of these many nations can form agreements which allow them to limit the possibility of international aggression. For example, a contract between governments which assures a joint response in the event that one is attacked allows the countries to simultaneously reduce their own armaments and expand their degree of national security.

This evolution into regional defense agreements seems to be a natural outgrowth of the same forces that create national social contracts, as does an even more universal contract among the governments. Even the regional defense agreements still require a sufficient degree of armaments to defend against other regional pacts and the members of the nations will find themselves in a situation where they may all further benefit from forming an international social contract which limits the aggressive behavior of national governments. A supranational organization given the power to enforce the international social contract is a natural outgrowth of this process. The fact that both the League and the United Nations were formed after the realized devastation of world wars, to

promote international peace, closely aligns with the reasons suggested in this social contractarian view.

Both the League and the United Nations make explicit the organization's purpose of disarmament while maintaining national power to prevent such things as territorial invasion. Article 8, Section 1 of the League of Nations Covenant states: "The Members of the League recognize that the maintenance of peace requires the reduction of national armaments to the lowest point consistent with national safety and the enforcement by common action of international obligations." While the Covenant does not directly point to the benefits from the freeing of resources previously devoted to defense purposes, Article 26 of the U.N. Charter makes this purpose much more explicit: "In order to promote the establishment and maintenance of international peace and security with the least diversion for armaments of the world's human and economic resources..." These passages, especially the one from the U.N. Charter, seem to closely parallel the Buchanan model. The people who formed these organizations not only wish to lower armaments for the purpose of peace, but also to free resources for other uses.

A simple graphical model can help illustrate the gains from the formation of an international social contract with an international organization entrusted with its enforcement. Ceteris paribus, in a situation of international anarchy an individual's utility is directly related to their ability to

protect their property rights from foreign invasion, and thus the military power of their government.[2] International arrangements allow a pooling of military power in which individuals in all member nations are able to increase their security through their ability to access the military power of the other member nations. Each member nation would be allowed access to the organization's power with the approval of the other members. The international organization serves the purpose of regulating the use of this power and, for example, would not allow a member nation to use it to invade a neighboring nation for the purpose of territorial expansion.[3] Through joining the organization, individuals in member nations will benefit by being able to access the military power of the international organization. The cost of joining is that other nations will be able to use the country's military resources on certain occasions. By joining, the individuals in a country can have a greater utility than they would have under international anarchy, with the increase

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[2] For simplicity, it will be assumed that there are no differences between nations in individual's ability to protect their property rights from other national citizens.

[3] The idea that one nation should not have unlimited access to the military resources of the international organization is an application of Rand (1964). She explains that a government is the means of placing the retaliatory use of force under objective control. Both the Covenant and the Charter explicitly state that military forces can only be used in retaliatory situations, and both also require a unanimity of at least the Great Powers for the use of military force.

being in direct proportion to the military power of the organization, and their ability to access it.

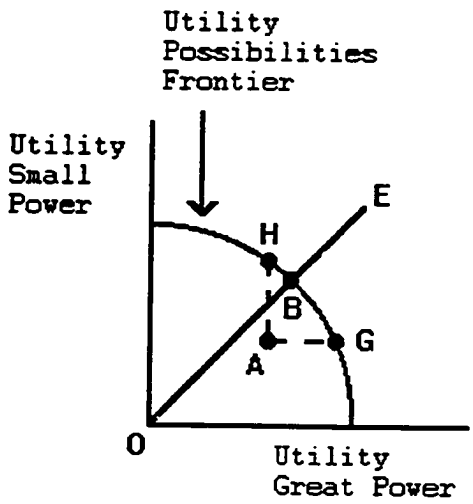

Figure 2.1 - Formation of the League of Nations

A graphical representation of this process is given in Figure 2.1. This graphical model of the contractarian framework is an extension of the model developed in Holcombe (1994). Point A in Figure 2.1 represents the hypothetical utility levels of two representative agents, one a Great Power nation and the other a Small Power nation under international anarchy. The alternative levels of utility to be attained through the formation of an international organization are represented by the Utility Possibilities Frontier in Figure 2.1. The arc GH represents the set of Pareto superior points

on the Utility Possibilities Frontier that can be reached by the formation of the international organization. This set of points corresponds to different organizational distributions of power among the member nations.

The distribution of power among the member nations takes place through the establishment of voting rules and restrictions on who is eligible to vote. Through these rules, individuals in a nation will have more utility to the extent that their government can influence the organization's decisions, and control the use of the organization's military might. This is important not only for their protection, but also to assure that their military resources are not over-utilized by the organization, which would impose large costs on them. The power of the international organization and the associated utility gains will, however, not be independent of the distribution of power among the member nations. An organization characterized by one nation controlling almost all of the decisions will not be as successful nor considered as legitimate as an organization with a more equal distribution of power. A more equal distribution of power will generate a larger membership and will foster more compliance with the organization's decisions and thus give the organization more power. The concave shape of the Utility Possibilities Frontier is a result of this larger power held by an organization that has a more equal distribution of power among its members.

The distribution of the international organization's power among its members, through such things as decision making rules and the composition of the main decision making organs, is specified in the international constitution. Because the constitution is agreed upon before the actual organization is functioning, the decision is made based upon the expected, rather than the actual, future success of the organization. At every point along the ray OE, the ratio of organizational power between the two groups is identical. If this distribution of power was desired, point B would be chosen by the organization. It would be reflected in the organization's constitution through, for example, voting rules. A lowering (or clockwise rotation) of the ray OE would give the Great Powers a more favorable distribution of power while a raising (or counter-clockwise rotation) would give the Small Powers a more favorable distribution of power.

Under the rights structure established by any world constitution, the constituencies of each nation have an incentive to behave opportunistically, even though all would be better off if every nation adhered to the contract. Thus even with a rights structure provided by an international constitution there is no guarantee that nations will honor others' rights. Because of this prisoners' dilemma, an organization formed under a constitutional contract can only be successful to the extent that the provisions of the contract can be enforced. Because an individual's benefits

from joining the organization are derived from its government's ability to use, or threaten to use, the collective military might of all of the member nations to protect their property, a lack of its use in warranted situations and thus the credibility of its future use can directly determine the success of the organization. This lack of credible enforcement power was one of the major reasons for the failure of the League.

Working within constitutional rules also conveys legitimacy to organizations, and by so doing generates support that helps it to maintain its position in the face of potential competitors.[4] Thus an organization, such as the League, that does not fulfill the obligations of the constitutional contract and cannot overcome the prisoners' dilemma will be doomed to failure. The following quotation clearly shows the loss in legitimacy the League suffered after its failure in Manchuria.

> "The League Covenant, can apparently be ignored with impunity. Japan has ignored it by invading Manchuria; the nations represented on the League Council have ignored it by refusing to insist on the withdrawal of Japanese troops... The Covenant has failed to save China from aggression...and the Great Powers...have to their great shame not even seriously protested against, let alone resisted, such a state of affairs." *The Manchester Guardian*, December 8, 1931, from Scott (1973) pp. 218-219.

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[4] See Holcombe (1994), especially Chapter 8, for a more complete discussion of this concept.

The following sections contain a more in depth analysis of the League's failure and how it influenced the United Nations Charter.

III. A Brief History of the League of Nations

The peace treaty ending World War I, the Treaty of Versailles, contained provisions for a League of Nations, and any nation ratifying the Treaty also pledged themselves to observe the terms of the Covenant. The drafting committee was composed entirely of Allied powers, and originally weighted heavily in favor of the five larger powers, the U.S., France, Italy, Japan, and the British Commonwealth. Each of these countries was given two spokesmen while five other countries; Belgium, Brazil, China, Portugal, and Serbia, were allowed only one. After much protest by the smaller powers, four more countries; Greece, Poland, Czechoslovakia, and Romania, were given single representatives. The nations who remained neutral during the war were only informally consulted later. The nations who were defeated were given no say. This structure led the League to be called by Germany a victors' club (Northedge 1986 and Scott 1973).

Buchanan, Rawls, and Nozick all share the sentiment that it is the process by which the social contract is formed which determines its fairness (Gordon 1976). The legitimacy and

fairness of the social contract stem from the voluntary nature of the agreement. Thus, Germany's later claims of being unfairly treated under the League, which it was forced to join through its signature on the Treaty of Versailles, seem justified based upon this procedural theory of fairness.

The actual Covenant also covered areas such as disease prevention, the abolition of slavery, prostitution, drug trafficking, and the humane treatment of labor.[5] While the Covenant showed the first signs of the hope for a universal international social contract, the Versailles Treaty was twice rejected by the U.S. Senate because of the Covenant's inclusion. The fear was that America would have to assume the role of the world peace-keeper and that in the process of joining the League it would lose some of its self-governing rights. The U.S. thought that its military resources would be utilized by other nations to such an extent that the benefits from joining the organization would not outweigh the costs.

Even though the U.S. never became a member, over 63 nations of the world did. Throughout the 1920s the League was successful in maintaining peace through its International

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[5] These endeavors proved to be the most successful of the League's accomplishments. The Bruce Report contained a proposal that was eventually reflected in the U.N.'s Economic and Social Council. The U.N. continued the League's work in these areas after its failure.

Court of Justice and it gained support[6]. The fall of the League began with the failure in its handling of the 1931 Japanese invasion of Manchuria. By 1933 Germany had withdrawn from the League under Hitler's leadership, and began to ignore the guidelines set forth in the Treaty of Versailles. Rather than working to stop Hitler, the League tried to persuade Hitler to re-join the League. The final blow to the League was Italy's 1935 invasion of Ethiopia. The League's response of limited and ill-timed economic sanctions was not successful, and Italy swiftly conquered Ethiopia. Italy pulled out of the League in 1937. By 1939 the League had lost most of its influence and revived briefly to expel the USSR for its attack on Finland. The League was formally dismantled on April 18, 1946, when it was succeeded by the newly organized United Nations.

Among historians, the main reason cited for the failure of the League was its lack of power, which diminished its ability to solve international crises, such as the Japanese invasion of Manchuria and the Italian invasion of Ethiopia. During the period directly preceding the outbreak of World War II, the League was not even consulted by the member nations. Other reasons cited for the fall of the League can be found in

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[6] For example, the League successfully handled territorial disputes between Sweden and Finland, Czechoslovakia and Poland, Iraq and Turkey, Germany and Poland, Greece and Italy, Bulgaria and Greece, Hungary and Romania, and Bolivia and Paraguay. For a more detailed account of these and other matters handled by the League during the 1920s, see Myers (1930).

the speech of Jonkheer Beelaerts van Blokland, the Netherlands representative to the League, during its last assembly (League 1946).

> If we ask ourselves what were the causes of the failure, there are, in my opinion, three which should be regarded as fundamental.
>
> First of all, there was the lack of universality. The absence of one of the Great Powers...
>
> Secondly, I would mention a defect in the League's organisation-the exaggerated equality between great and small Powers... That defect, however, was not inherent in the Covenant. Its authors fully realized the dangers of an exaggerated equalization, as shown by the composition of the Council in its original form. But the Members themselves...by repeatedly increasing the number of non-permanent Members of the Council distorted that body's character...
>
> Lastly, I consider that one of the League's outstanding weaknesses was the lack of solidarity among its Members. Any international organisation is bound to fail if it is not sustained by a common spirit, a common ideology and mutual confidence between the parties composing it.

One reason he cites is the non-universality of the League's membership. In particular he points out the non-participation of the United States. The Netherlands's representative also cites the exaggerated equality between great and small Powers, through the increase in the number of non-permanent Members of the Council, as a reason for the League's demise. Each of the above mentioned reasons will be explored in the following sections.

IV. Changes in the League's Distribution of Power

The main change in the distribution of power in the League of Nations occurred through the increases in the number of non-permanent seats on the League's Council. Article 4, section 2 of the Covenant allowed the membership of the council, both permanent and non-permanent, to be altered with the approval of the majority of the Assembly and the entire Council. The League Council was originally composed of nine seats, five permanent and four non-permanent. The five permanent seats were reserved for the Great Powers and the four non-permanent seats were for the Small Powers. During the successful years of the League the Small Powers were able to bargain for a larger number of seats on the Council. In 1922 two additional non-permanent seats were created. In 1926 the Council's membership was again expanded when Germany was given a permanent seat and three additional non-permanent seats were created. Both of these increases in the number of non-permanent seats were done by unanimity of the Council and thus the new distribution of power must have been expected to be a Pareto superior move for the Great Powers.

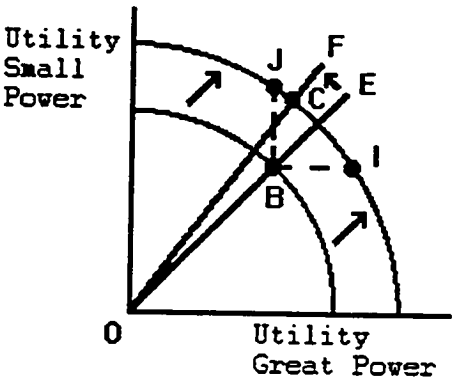

Figure 2.2 - Change in the League's Distribution of Power

Returning to the model, the point B along the ray OE in Figure 2.2 depicted the distribution of power that was set out in the original Covenant. During the 1920s the League was performing better than expected. This is reflected by the outward shift in the Utility Possibilities Frontier. With this outward shift in the Utility Possibilities Frontier, a new set of Pareto-superior points along the arc IJ was obtainable. Because the actual power of the organization, and the gains in utility, turned out to be larger than was expected, the Small Powers were able to bargain for a more favorable distribution of power within the organization. The changes in the composition of the League Council led to a

counter-clockwise rotation in the distribution of power ray, from OE to OF, and moved the members to the point C.

While this alone would not have caused the League's failure, in combination with the later reduction in the League's power it can be shown to have contributed to it.

V. The Free Rider Problem in the League

The model presented earlier can be used to shed insight into why a free rider problem in the League coupled with the increase in the number of non-permanent members of the Council caused the eventual abandonment of the League. During the 1930s the League suffered failures in the Japanese invasion of Manchuria, the German defiance of the Versailles Treaty, and the Italian invasion of Ethiopia. These failures were mainly due to the free rider problem. This free rider problem in the League lowered its ability to enforce the provisions of the Covenant, and thus lowered its power.

Under the Covenant, it was up to the individual members to decide when a breach of the Covenant had been committed. The Council was only in a position to recommend. Article 16, Sections 1 and 2 read:

> Should any Member of the League resort to war...it shall *ipso facto* be deemed to have committed an act of war against all other Members of the League, which hereby undertake immediately to subject it to the severance of all trade or financial relations... It shall be the duty of the

> Council in such case to recommend to the several Governments concerned what effective military, naval or air force the Members of the League shall severally contribute to the armed forces to be used to protect the covenants of the League.

Despite the seemingly severe intent of this article, in practice the League never used force to interfere in an aggression, and had tremendous trouble obtaining agreement to impose effective economic sanctions. The council was only in a position to recommend sanctions and military action not to require them. In the 1936 Italian invasion of Ethiopia, the League faced much debate and had trouble imposing even limited sanctions against Italy. The League was never able to agree to fully impose the sanctions by including an oil embargo, which was the most important Italian import, because of the national interests involved and the fear of Italian retaliation on members who voluntarily participated with the sanctions.[7] This lack of compulsory compliance created the free rider problem and was the cause of the League's failure to prevent Ethiopia being taken over by Italy. This, however, was not the first failure of the League to stop acts of aggression because of the free rider problem. The League's failure in the 1931 Japanese invasion of Manchuria was caused by the same lack of uniformly imposed sanctions and effective action.

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[7] See Kaempfer and Lowenberg (1992) for a discussion of how national special interests interfere in the sanctioning process. They conclude that this special interest influence causes sanctions to be relatively ineffective.

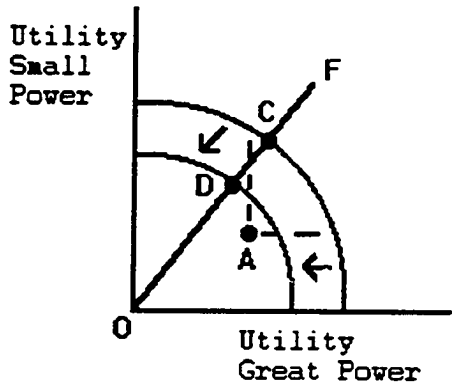

Figure 2.3 - Failure of the League of Nations

Returning to the model, the loss in power created by the free rider problem is shown in Figure 2.3 by the inward shift in the Utility Possibilities Frontier. With the new distribution of power along the ray OF, the League members moved to point D. Note that individuals in a Great Power nation now has less utility being members of the League than they would have in the anarchistic situation represented by point A.

At this point it becomes beneficial for the Great Power nations to abandon the organization or demand a renegotiation. The League's actual power being less than what was expected is the reason why the free rider problem caused the Great Powers

to abandon the League during the years directly preceding World War II and why they found it in their best interest to completely abandon the Covenant and create a totally new document after the end of the war. Going into World War II, the Great Power nations found themselves better off attempting to influence international events individually than within the League and thus never even consulted it during the critical years directly preceding the war.

This analysis suggests that there were two reasons for the failure of the League, the free rider problem associated with the lack of requirements for member countries to simultaneously cooperate with the sanctions (and military action) and the redistribution in the League's power in favor of the Small Powers. If the redistribution of power during the 1920s had not occurred, it is very possible that the resulting outcome could still have been Pareto superior to point A, in which case the Great Powers would have found it more beneficial to work within the League than outside it. Given the situation depicted in Figure 2.3, however, the only ways the League could have been saved from failure were if some of the League's power was redistributed back in favor of the Great Powers or if institutional changes were made which increased the League's power. A movement in this direction is, however, not Pareto superior to point D and would be impossible to reach because of the objections of the Small Powers.

The inability of the Covenant to overcome the free rider problem was not without the League's notice. In 1921, the Second Assembly of the League attempted to amend Article 16 by adding the following paragraphs:

> It is for the Ccuncil to give an opinion whether or not a breach of the Covenant has taken place. In deliberations on this question in the Council, the votes of Members of the League alleged to have resorted to war and of Members against whom such action was directed shall not be counted.
>
> The Council will notify to all Members of the League the date which it recommends for the application of the economic pressure under this article.

This amendment was never ratified, however. There were other attempts to go even further and make the compliance with sanctions compulsory. Two documents, the Draft Treaty and the Geneva Protocol, were proposed to strengthen the League. These two documents not only made sanctions compulsory, but also provided a method of defining when an act of aggression had occurred. These proposals also provided for a compulsory military response by the members. Perhaps the strongest proposal was contained in the version of the Draft Treaty of Mutual Guarantee prepared by Lord Robert Cecil. The following are excerpts are from Articles 12 through 16 of the Draft Treaty:

> It shall be the duty of the Council of the League, within four days at most from the date on which the Secretary-General receives such information, by not less than three-fourths majority, to decide which of the States so engaged in hostilities has been the aggressor.
>
> The High Contracting Parties undertake to participate not only in measures undertaken for the defense of the Party attacked, but also in the

> offensive measures required to reduce the aggressor State to submission.
>
> The High Contracting Parties agree immediately to apply a complete economic and financial blockade, in accordance with Article 16 of the Covenant, against any State which the Council has decided to have committed an act of aggression.
>
> Each of the High Contracting Parties agrees to maintain at the disposal of such military command an agreed proportion, not being less than one-quarter of its naval and air forces.
>
> The High Contracting Parties agree to furnish further military help in addition to the naval and air forces...if they are requested by the Council to do so.

This treaty was proposed in 1923 but was defeated by British blockage. Their objection was much the same as the reason for the non-U.S. participation, the fear of becoming a policeman to the world. The later proposed 1924 Protocol for the Pacific Settlement of International Disputes, later called the Geneva Protocol, was also defeated by British objections.[8] Excerpts from Articles 11 through 13 of the Geneva Protocol are; from Article 11:

> As soon as the Council has called upon the signatory States to apply sanctions...the obligations of the said States...will immediately become operative in order that such sanctions may forthwith be employed against the aggressor.
>
> Those obligations shall be interpreted as obliging each of the signatory States to co-operate loyally and effectively in support of the Covenant of the League of Nations.

from Article 13:

> In view of the contingent military, naval and air sanctions provided for by Article 16 of the

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[8] For a more detailed discussion of the Geneva Protocol and the Draft Treaty see Baker (1925). Northedge (1986) provides a detailed discussion of the British objections to both.

> Covenant and by Article 11 of the present Protocol, the Council shall be entitled to receive undertakings from States determining in advance the...forces which they would be able to bring into action immediately to ensure the fulfillment of the obligations in regard to sanctions which result from the Covenant and the present Protocol.

While the Geneva Protocol was not as forcefully worded as the Draft Treaty, it still would have provided for the compulsory use of sanctions and military action by member nations. It also would have allowed the Council to determine when aggression has happened and who is the aggressor nation.

VI. How Important was the Non-participation of the U.S.

The non-universality of the League's membership, in particular the non-participation of the United States, is frequently blamed as one of the reasons for its demise. There are two fundamental points to be made in rebutting these claims. First, in regard to the non-universality, the aggressions that caused the League's fall were between member nations. At the time when Japan invaded China, and when Italy invaded Ethiopia, all were members of the League. It was not hostilities between non-members that hurt the League, but the ones between members. Along these same lines, the U.S. Constitution does not need the signature of the Canadians, or other nations, to be an effective document for promoting national rights preservation and the collective security of

the states. NATO did not need the signatures of the Warsaw Pact nations to be an effective deterrent of war.

Secondly, the only benefit of U.S. participation would have been greater military and economic sanction resources available to the League. However, given the free riding of the other Great Powers in the League there is no reason to believe that the U.S. would have complied. This is even further justified because of the American reluctance to become policeman to the world. The atmosphere in the U.S. after World War I was one of isolationism and nationalistic sentiments. Thus, there is no reason to believe that the U.S. would have somehow overcome the other League members' problem of unwillingness to apply sanctions and take military action.

While the U.S. refused to join the League for fears of losing sovereignty and becoming a policeman to the world, they are the U.N.'s biggest contributor. In fact, the U.N. Charter is more imposing upon the U.S.'s military might than the Covenant. Since the inception of the U.N., the U.S. has been a policeman in may situations, for example, Korea, Vietnam, and Iraq. There is little doubt that the U.S.'s role as a world policeman is much greater in the U.N. than it would have been in the League. Thus, one may conclude that it is the change in American attitudes that has enabled their participation in the more demanding U.N.

VII. The Unanimity Rule and the Failure of the League

Another constitutional reason for the failure of the League was its inability to take action in disputes involving aggression by one of the Great Powers. Because of the unanimity rule, action in these situations can be blocked by the veto power of the aggressor nation. Because of the League's lack of power in this type of situation, many Great Powers found themselves to be better off dealing with another Great Power's aggression outside the League.

There are two basic public choice principles that yield insight into the reasons for a unanimity rule among the Great Powers on the Council. The first is because of the superior bargaining position of the Great Powers when the organizations were formed. Holcombe (1994, Ch. 2) stresses the notion that nations will only receive the rights for which they can bargain and thus, nations in superior bargaining positions will be able to appropriate more of the gains from trade when forming a constitution. Ellickson (1987) also notes that gains from Pareto-superior improvements are not always distributed equally. Following this line of reasoning, we should expect the Great Powers to be able to control more of the power of the organization by having the right of veto on important matters.

Buchanan and Tullock (1962) provide a theory of the optimal voting rule depending upon the external and decision

making costs involved. Decisions involving the use of member nations' military forces will impose higher costs upon the Great Power countries because they will bear a larger share of the burden than the Small Powers. These external costs are higher for the Great Powers than for the Small Powers. Using the Buchanan and Tullock (1962) methodology, the decision rule for military action should have to require a larger degree of consensus among the Great Powers. In other decisions that do not impose such a high external cost, a less stringent rule is optimal. For example, the Great Powers are not given veto rights in the General Assembly of the United Nations.

Thus, it is easy to see how a unanimity requirement among the Great Powers is a likely constitutional voting rule for military action because of the higher external costs and the superior bargaining position of the Great Powers. The drawback of such a stringent rule is that a Great Power may veto actions against themselves if they are the aggressor nation. For example, during Japan's invasion of Manchuria they were able to successfully defeat measures proposed in the League Council that would have brought an end to the conflict.

In the actual Covenant, exclusion of the interested party's vote is mentioned in the use of Articles 15 and 16, but it is not mentioned in the use of Articles 10, 11, 13, and 19. The League, in practice, excluded the votes of the interested parties when acting in a judicial capacity, but did not in matters that were primarily political. On at least two

important occasions the League allowed the vote of an interested party to block the Council's actions. The first time was in the 1928 dispute between Lithuania and Poland concerning the expulsion of Polish nationals. The Council's proposed resolution was defeated solely by the Lithuanian vote. In 1931 the lone Japanese vote was able to block a Council resolution that called for the immediate withdrawal of Japanese troops from Manchuria. While the Covenant excludes the vote of the interested party in some situations and not in others, members of the League's Commission, which drew up the Covenant, testified in 1930 that there "was no doubt that...it had simply been by an oversight that it had not been said that the votes of the interested parties should not figure in calculating unanimity" (from Koo, 1947, p. 104).

This oversight was known by the League's members. Both the Draft Treaty and the Geneva Protocol contained stronger provisions for the exclusion of the aggressor nation's vote. Perhaps the strongest clarification of the rule is given in Article 18 of the Geneva Protocol, which reads:

> Wherever mention is made in Article 10, or in any other provision of the present Protocol, of a decision of the Council, this shall be understood in the sense of Article 15 of the Covenant, namely that the votes of the representatives of the parties to the dispute shall not be counted when reckoning the unanimity or the necessary majority.

Because of the problem associated with the unanimity rule for determining which nation was the aggressor, the Draft Treaty proposed to replace it with a three-fourths majority rule.

In the League Council, all important decisions had to be made by unanimity. While the previous discussion concentrated on the ability of a Great Power to veto actions against themselves, a non-permanent member also had this power. This veto power in cases of aggression compounded with the free rider problem to decrease the League's power even further. This lack of actual power in the League, especially in situations of Great Power aggression, was another reason why the League was not even consulted to prevent World War II.

VIII. Influences on the U.N. Charter

The failures of the League, and the shortcomings of its Covenant, drastically influenced the wording of the United Nations Charter. In drafting the U.N. Charter, specific provisions were included with the intent of avoiding some of the problems that occurred in the League.[9] To prevent the redistribution of power that occurred in the League through the expansion of seats on the Council, Article 23, section 1 of the U.N. Charter directly states the exact number of permanent and non-permanent members of the Security Council. It also lists the permanent members by name. Thus, in the United Nations, changes in the composition of the Security

[9] Holcombe (1991) discusses the similarities between the Articles of Confederation, the U.S. Constitution, and the Confederate Constitution in an evolutionary framework.

Council require an amendment to the Charter, rather than just a majority vote of the General Assembly, as was the case in the League. This change was made by the Great Powers in the formation of the U.N. to avoid the redistribution of power that occurred in the League. By unanimous approval the U.N. Charter was amended in the 1965 to expand the number of non-permanent seats to ten. Additionally, the United Nations Security Council requires unanimity only among the Great Powers, while the League Council required unanimity among all members. Under the original number of seats in the Security Council, passage required the unanimous consent of all five Great Powers and any two of the non-permanent members. When the U.N. expanded the number of non-permanent seats to ten, they only increased this requirement to needing four of the non-permanent members' votes. This is another way in which the United Nations has tried to prevent the over-equalization of power that occurred in the League. Within the framework of the model, the expansion of the number of non-permanent seats on the Security Council can be represented in the same way as the expansion in the number of seats on the League Council, which was shown as a counter-clockwise move in the ray from the origin in Figure 2.2. This redistribution of power will only be a problem to the U.N. if the utility possibilities frontier declines in the future because of a loss in the power of the U.N. organization.

With regard to the free rider problem, the U.N. Charter contains clauses which have allowed the U.N. to avoid this problem. The following U.N. Charter provisions for these issues were clearly influenced by the Draft Treaty and the Geneva Protocol. Article 41 of the U.N. Charter states:

> The Security Council may decide what measures not involving the use of armed force are to be employed to give effect to its decisions, and it may call upon the Members of the United Nations to apply such measures.

Article 42:

> Should the Security Council consider that measures provide for in Article 41 would be inadequate or have proved to be inadequate, it may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security. Such action may include demonstrations, blockade and other operations by air, sea or land forces of Members of the United Nations.

Article 43:

> All Members of the United Nations, in order to contribute to the maintenance of international peace and security, undertake to make available to the Security Council, on its call and in accordance with a special agreement or agreements, armed forces, assistance and facilities, including rights of passage, necessary for the purpose of maintaining international peace and security.

Article 45:

> In order to enable the United Nations to take urgent military measures, Members shall hold immediately available national air force contingents for combined international enforcement action.

The U.N. Security Council has the power to decide when aggression has happened and they may require sanctions and military enforcement. The League's lack of these powers was

the main reason for its failure in handling the Japanese invasion of Manchuria, the Italian invasion of Ethiopia, and it fostered the lack of legitimacy that led to the complete failure of the league to prevent World War II.

While the Charter contains provisions which solve many of the League's problems, the Great Power veto in cases of aggression may still occur. This problem was present in both the Council and Assembly of League and it is even perhaps an even greater problem in the United Nations Security Council. Both the Charter and the Covenant contain provisions that allow the organization to suspend the voting rights of a Great Power aggressor nation. The League, however, was never bold enough to follow this course of action and it is doubtful that the United Nations would be any bolder. Even at the time of the U.N.'s formation a public survey by the National Opinion Research Center at the University of Denver indicated that only 36% of the survey participants thought that the U.N. had a good chance at preventing a war between the more powerful nations of the world. In contrast, 57% of the respondents thought that the U.N. had a good chance at preventing a war between smaller nations.

The Charter's policy on abstention is given in Article 27, section 3, which reads: "...in decisions under Chapter VI, and under paragraph 3 of Article 52, a party to a dispute shall abstain from voting." If a permanent member, however, denies the existence of the dispute, or denies that they are

a party to the dispute, this rule does not apply until the Security Council finds that they are a party to the dispute and that the dispute exists. This ruling, however, must be done with the inclusion of the aggressor's vote, and is subject to their veto. Another problem is that the rule does not apply to decisions about sanctions, military actions, or preventative measures taken under Articles 39 through 51 in Chapter VII. Thus a Great Power is not prohibited from voting on the enforcement measures taken by the Security Council, and may use its veto power to block such actions.[10]

It remains to be seen whether this same problem will hurt the credibility of the United Nations. Amendments to the Charter that would eliminate the Great Power veto in the Security Council have been proposed many times but have never been ratified. The fact that these amendments have been proposed shows that it is viewed as a weakness in the original Charter by at least some of the member nations.

IX. The proposed amendments to U.N. Charter

> "Those who want to revise the Charter would like to turn the United Nations Organization not into an effective instrument for the defense of peace...but into an instrument of an aggressive policy which, in itself, constitutes a threat to the peace. It is not to secure peace, therefore, but to threaten,

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[10] For a more complete discussion of the Great Power veto in these types of situations see Bentwich and Martin (1950) and Koo (1947).

> to endanger and to subvert peace." Andrei Y. Vyshinsky, U.S.S.R., Opening Plenary Meeting of the Eighth General Assembly, September 1953, from Logue 1955, pp. 28.

There have been many proposed amendments to the U.N. Charter. They have ranged from giving the U.N. a complete monopoly on force in the world to enabling them to use force to ensure compliance with disarmament proposals. There have only been a few, however, that were taken seriously. Among these include a proposal to eliminate the veto power in the Security Council, a proposed elimination of the permanent seats on the Security Council, a proposal to increase the number of non-permanent seats on the Security Council, a proposal to insist upon free elections of the delegates to the U.N., and a proposal to give the U.N. the power of force for the purpose of international income redistribution (see Logue 1955). Of these proposed amendments, only the increase in the number of non-permanent seats was ratified. Most of these proposals, made during the 1950s, revolve around equalizing the power distribution in the U.N., which is a direct result of the mass of newly independent lesser-developed nations who have more recently joined. In the context of the model, these changes would shift the distribution of power line counter-clockwise, much like in Figure 2.2. The process required for amending the Charter, however, has enabled the Great Powers to block most of these efforts. Article 108 of the Charter reads:

> Amendments to the present Charter shall come into force for all Members of the United Nations when they have been adopted by a vote of two thirds of the members of the General Assembly and ratified in accordance with their respective constitutional processes by two thirds of the Members of the United Nations, including all the permanent members of the Security Council.

This is very similar to the amendment requirements under the Covenant of the League. Article 26, Section 1 states:

> Amendments to this Covenant will take effect when ratified by the Members of the League whose Representatives compose the Council and a majority of the Members of the League whose Representatives compose the Assembly.

The most serious amendments revolve around making a more equal distribution of power among the nations and enabling the U.N. to redistribute wealth to the lesser-developed nations. These amendments, if accepted, could lead to the same troubles for the U.N. that were experienced in the League. However, not all of the Small Powers agree with the idea of revising the distribution of power.

> ...Sweden, as well as many other small Powers, regards the great Powers' right of veto on decisions concerning, for instance, military action as a guarantee that our countries will not be bound, as the result of the majority of the Security Council, to take part in military action in cases where the great Powers stand very much divided. Oesten Unden, Sweden, Opening Plenary Meeting of the Eighth General Assembly, September 1953, from Logue 1955, pp. 30.

Thus, while he may not be aware of the Buchanan and Tullock (1962) voting model, he is surely aware that the decisions of the Security Council have great external costs and thus should be made with a more stringent voting rule.

It is yet to be seen if there will be further substantive changes made to the United Nations Charter besides the 1965 expansion in the number of non-permanent seats on the Security Council. It is clear that the wording and content of the Charter have been influenced by the failures of the League and that it represents a much improved document for overcoming the free rider problem and preventing a redistribution of power. Potentially serious problems still remain, however, in the area of Great Power aggression. Because of the requirements of the amendment process, this problem will probably never be fixed. Because of the Great Powers' superior bargaining position after World War II, they were able to insist that the new constitution have provisions preventing the loss in power that they experienced in the League. While their influence has led to the formation of a more successful organization, the U.N.'s ability to prevent another war between the Great Powers has yet to be tested.

X. Conclusion

The social contractarian and public choice approaches to constitutional analysis are easily extendable into the international arena. This framework lends a new perspective to the analysis of international constitutions such as the United Nations Charter and the League of Nations Covenant. An

examination of both documents found that the reasons for their development are consistent with the contractarian theory.

The model developed here can be illustrated through a graphical analysis of the formation and failure of international organizations. In the case of the League of Nations, the failure was caused by a combination of two main factors. The first factor was the redistribution of the organization's power in favor of the Small Powers during the League's more successful years, and the second was the loss in the absolute power of the League itself. This loss in power was caused by the free rider problem in the League's use of sanctions and military action, and the ability of a Great Power to block the League's action in situations where they were the aggressor. This combination of the factors led to the Great Powers having more success if they attempted to influence international events outside of the League, and is why the League was never even consulted during the years prior to World War II. These are also the reasons why the Great Powers completely abandoned the League, and its Covenant, after World War II. They formed a completely new organization, the United Nations, with a completely new constitution, the Charter, which was more favorable to themselves.

After the formation of the League, amendments were proposed to fix many of the problems that led to its eventual downfall. These amendments were never ratified. It is quite

possible that if these amendments had been ratified that the League could have prevented World War II and would still be functioning today.

The factors that contributed to the League's failure had a major influence on the wording of the United Nations Charter and the structure of the organization itself. The Charter includes provisions that are meant to overcome the free rider problem in the League. The Charter also requires a constitutional amendment to change the number of non-permanent seats on the Security Council. Additionally, the Charter does not require the unanimous consent of Small Power nations for Security Council decisions. While the Charter, in these areas, represents an improvement over the Covenant, it is still susceptible to a Great Power's veto if they are the aggressor. It is questionable whether the United Nations would be able to handle, or prevent, a war involving a Great Power nation, and it has yet to be tested. Proposed amendments to the Charter that would take away the Great Power veto on the Security Council and further expand the number of non-permanent seats have not been ratified.

The model presented in this chapter could also be used to analyze the formation of many other international arrangements such as the European Community, and the Commonwealth of Independent States that emerged from the former Soviet Union. The analysis of international constitutions is an interesting extension of the tools provided by constitutional economics,

which have mostly been applied to national constitutions. These tools add to the understanding of many international organizations which exist today and to the ongoing formation and evolution of international agreements.

CHAPTER 3

THE SIZE AND GROWTH OF THE UNITED NATIONS BUDGET: A PUBLIC CHOICE INTERPRETATION

I. Introduction

This chapter analyzes the size and growth of budgets in the U.N. system. First, descriptive data on the distribution of expenditures, both by source and by function are presented. Sources of funds for the U.N. system are voluntary contributions and assessed budgets. The differing reliance on each source of funds is described for each of the three components of the U.N. system, the U.N. Organization itself, the specialized agencies, and other voluntary programs. The distribution of expenditures among primary functions, public good provision, regulation, transfers, and peacekeeping activities is also presented, along with historical trends in both the sources and functions of expenditures. The traditional view that U.N. budgets are inefficiently small because of free rider problems is analyzed and reviewed in light of the recent challenge presented by Frey (1991) using

an application of bureaucracy theory. Data on the growth of the U.N. system budgets are given and relevant public choice theories are discussed which may lend insight into why they have grown more rapidly than even the budget of the U.S. federal government. Vaubel (1991) presents a theory for why international organizations should be expected to engage in a large degree of special interest activity, and this theory is discussed in terms of its ability to explain the rapid budget growth in the U.N. system.

II. U.N. System Expenditures by Function and Source

The United Nations system expenditures are financed through two sources: assessments on member nations and the voluntary contributions of member states and private sources. The United Nations system can be divided into three distinct subgroups: the U.N. Organization itself, the specialized agencies, and other voluntary programs. Four specialized agencies, the International Monetary Fund (IMF) and the three comprising the World Bank Group, the International Development Association (IDA), the International Bank for Reconstruction and Development (IBRD), and the International Finance Corporation (IFC), are usually not considered in budgetary analyses of the United Nations system. They are profit-making lending institutions that rely on their own net income to

finance administrative expenses. The member governments to these institutions provide loanable funds on a quota system. Because of their special characteristics, they will be excluded from this analysis as well.[1]

The U.N. Organization relies on assessments levied on member nations for its funding. The specialized agencies rely on both assessments and voluntary contributions. All but one of the specialized agencies considered here collects revenues through assessments on member nations, and the majority also receive funding from voluntary contributions. In fact, about 40 percent of the 1990 expenditures of the specialized agencies were financed through voluntary contributions. The other specialized agency and all other voluntary programs within the United Nations system rely entirely on voluntary contributions. Figure 3.1 shows the distribution of U.N. system expenditures by source of funds.[2]

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[1] This is common practice in U.N. budgetary analyses, see Elmandjra (1973) and Stoessinger (1964).

[2] Data for U.N. system expenditures was taken from *United States Contributions to International Organizations*, U.S. Department of State, Bureau of International Organization Affairs, various years, with the exceptions that UNESCO 1985 forward, ILO 1978-1980, and GATT 1948-1990 were taken from *The U.N. Yearbook*, United Nations Printing Office, various years. Data for U.S. Government expenditures and the GDP implicit price deflator was taken from *The Economic Report of the President*, 1993.

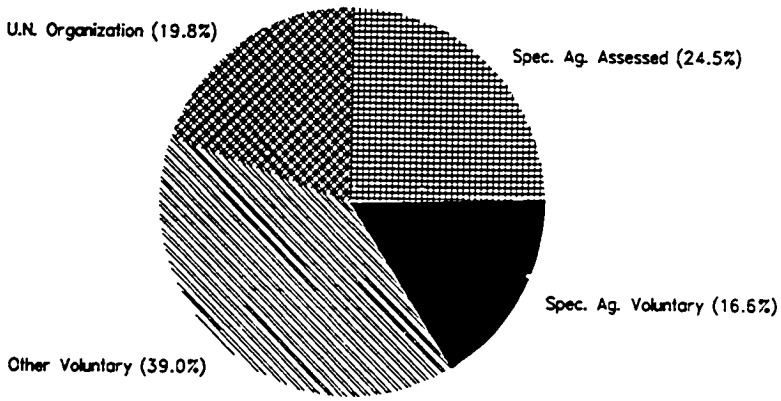

Figure 3.1 -- 1990 U.N. System Expenditures by Source

In 1990, the U.N. system in total had expenditures of 7.15 billion U.S. dollars, of which approximately 45 percent was financed through assessments and the remainder through voluntary contributions[3]. The assessments on member nations of United Nations Organization itself comprised about 20 percent of all U.N. system expenditures. The assessments on member nations of the specialized agencies, including the

[3] The vast majority of these voluntary contributions are made by national governments. Only a very small fraction is private donations. UNICEF and UNHCR, two other voluntary programs, have received the majority of the private donations. See Chapter 10 of Stoessinger (1964) for a more detailed discussion of the role of private donations in U.N. system finances.

General Agreement on Tariffs and Trade (GATT) and the International Atomic Energy Agency (IAEA), comprised about 25 percent, and voluntary contributions to the specialized agencies comprised about 17 percent. The remaining 39 percent was financed through voluntary contributions to other organs of the U.N. which are not specialized agencies, such as the United Nations International Children's Emergency Fund (UNICEF). United Nations system expenditures can be classified into four main categories: expenditures on public goods, regulation, peacekeeping, and transfer programs. Figure 3.2 shows the distribution of expenditures among these four categories.[4]

In 1990, approximately 70 percent of the U.N. system expenditures were transfer oriented, undertaken by programs such as the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), the International Fund for Agricultural Development (IFAD), and the United Nations Industrial Development Organization (UNIDO). Also, 10.4 percent of the U.N. system expenditures went toward the provision of public goods, 12.4 percent toward regulation oriented programs, and 6.2 percent toward peacekeeping

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[4] The expenditures classified as public goods were the World Meteorological Organization, the International Civil Aviation Organization Joint Financing Project, and parts of the U.N. regular budget such as the International Court of Justice. Regulatory expenditures include items such as the International Civil Aviation Organization regular budget, International Maritime Organization, and International Atomic Energy Agency.

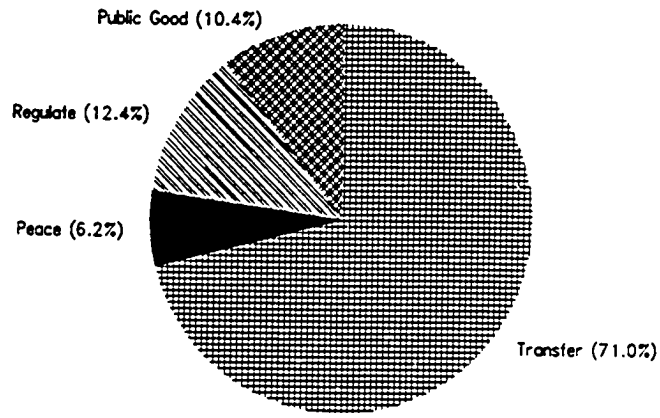

Figure 3.2 -- 1990 U.N. System Expenditures by Function

operations. Assessments on member nations provided over 95 percent of the funding for public good program expenditures and approximately 90 percent of the funding for regulation oriented program expenditures. About 75 percent of the peacekeeping expenditures were financed through assessments on member nations, with the remainder being financed by voluntary contributions. About 25 percent of the transfer oriented expenditures were financed through assessments on member nations. The voluntary contributions to transfer oriented specialized agencies comprised about 20 percent of the total transfer expenditures and the remaining 55 percent was

financed from voluntary contributions to the other voluntary programs.

From a theoretical perspective, the United Nations system's method of financing is very interesting. Its is very much a decentralized system of fiscal organization. With the central U.N. Organization comprising only about 20 percent of the expenditures, the remaining 80 percent is undertaken by the specialized agencies and more than 20 other voluntary programs. Because membership in the U.N. Organization and all of the specialized agencies is voluntary, in effect, the assessed budgets of these organizations are also voluntary in nature. Neither the U.N. Organization nor any of its subsidiaries has the coercive power to tax an individual or a government. Under this very decentralized system, there are many competitive pressures as one organization competes for funds with other organs. The result is a Tiebout (1956) type process with most organs being highly specialized in nature. The ability of member governments to opt out of individual programs provides an additional constraint against undertaking inefficient and unsupported projects. In the mid 1980s, Great Britain, Singapore, and the United States withdrew from the United Nations Educational, Scientific and Cultural Organization (UNESCO) severely reducing its budget because they felt that UNESCO's activities were straying from the original design of the organization and that they were inefficiently using their funds. The U.S. also withdrew from

the International Labour Organisation (ILO) for a three year period beginning in 1978, for similar reasons, but rejoined in 1981 because the ILO had assured it would make the changes desired by the United States. These competitive pressures have led to a U.N. system which is responsive to the desires of its member nations, especially those who provide a large proportion of their funding. Perhaps the most interesting facts are that over 70 percent of the total U.N. system expenditures are transfer related, and that over 70 percent of the funding for these programs is derived from voluntary contributions. It is worth mentioning that while these revenues are voluntarily given to these organizations, the countries that give the funds do not necessarily collect the money from their citizens voluntarily.

This method of financing, based mostly upon voluntary contributions, has been criticized by many public finance oriented theoreticians. Hochman and Rodgers (1969) explain how transfer oriented expenditures are undersupplied in a voluntary system because of their public good nature. Theories such as this have led authors, such as Mendez (1992), to the conclusion that the U.N. should be strengthened and given the power of coercive international taxation.[5] While the U.N. system devotes a greater percentage of their expenditures to transfer oriented programs than the U.S.

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[5] One notable exception is Stoessinger (1964) who does not believe that the U.N. should have the power of international taxation.

federal government, these theories would suggest that the absolute size of the transfers in the U.N. system are inefficiently small. From a conservative public choice perspective, however, this method of voluntary funding for transfer oriented programs has many desirable properties, as does the decentralized nature of the U.N. system.

Another interesting property of the U.N. system's fiscal structure is the differing bases for the assessment scales of the specialized agencies. The U.N. Organization and all of the transfer oriented specialized agencies base their scale of assessments on ability-to-pay, usually measured by GDP. Other specialized agencies that provide regulation and public goods use a scale of assessments that is more based upon member countries' usage. For example, the International Maritime Organization (IMO) bases its scale of assessments on the tonnage of the merchant fleets of its members, the General Agreement on Tariffs and Trade (GATT) bases its assessments on member countries' share of world trade, and the International Civil Aviation Organization (ICAO) uses a mixed system with 75 percent of the scale being income-based and the other 25 percent based upon member countries' volume of civil aviation. According to theory, assessments that are partially based upon total benefits received should foster the undertaking of more efficient projects relative to the other agencies who base

their scales on ability-to-pay.[6] If a project is efficient, there is always a cost sharing plan based upon benefits received that will make the project yield net benefits to all members. When costs are not based upon benefits received, inefficient projects are more likely to be undertaken.[7] The direct implication of this for the growth and size of the specialized agencies is unclear. Inefficient specialized agencies may be too large and grow to rapidly or they may find funds flowing away from their agency making them relatively small and causing their growth rate to decline.

III. Trends in U.N. System Expenditures

Since the origin of the U.N. system in 1946, there have been some notable trends in the expenditures of the system. The percent of expenditures of the system undertaken by the U.N. Organization itself have remained fairly constant between 20 and 30 percent since the late 1940s. The percent of expenditures financed by specialized agency assessments grew rapidly beginning in the late 1940s and reached their peak in 1961 at approximately 50 percent of U.N. system expenditures.

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[6] Lindahl ([1919] 1965) and Wicksell ([1896] 1965) were early proponents of the benefits received principle of taxation. See Holcombe (1985, Ch. 2) for a good discussion of the benefits received principle of taxation and how it relates to political agreement and efficiency.

[7] See Mueller (1989).

The formation of new specialized agencies also follows this trend. Five new specialized agencies were created during the 1950s, but none were created during the 1960s. Expenditures of the specialized agencies financed by voluntary contributions comprised only a very minor percent of expenditures until the early 1960s. The U.N. system expenditures financed by other voluntary contributions rapidly declined until the early 1960s, as many of these programs evolved into specialized agencies with assessed budgets.

Since 1960, the expenditures financed by these other voluntary programs has remained fairly constant at around 40 percent of the total U.N. system expenditures. Also, the total expenditures of the specialized agencies has remained fairly constant at around 40 percent of U.N. system expenditures. The notable change has taken place in the method of financing used for specialized agency expenditures. During the 1960s, there was a rapid increase in the percent of total specialized agency expenditures financed by voluntary contributions, rather than assessments on member nations. This shift toward voluntary financing for specialized agency expenditures continued until the 1970s, and it has remained fairly constant since that time.

In an evolutionary perspective, it appears that between 1946 and 1961 the U.N. system was characterized by the development of the other voluntary programs into specialized agencies who used mostly assessed budgets to finance their

expenditures. During the 1960 to 1970 period, these specialized agencies retained their relative size, but began to rely more heavily on voluntary contributions rather than assessed budgets.

There have been relatively few changes in the distribution of U.N. system expenditures between regulation, public goods, transfers, and peacekeeping. The only notable change was during the late 1950s and early 1960s when peacekeeping expenditures soared to just over 30 percent of the total U.N. system expenditures. Besides the variance in the peacekeeping expenditures, there have been few other changes in the distribution of U.N. system expenditures.

There have also been some changes in the financing methods used for transfer oriented expenditures. During the 1950s, the creation of the specialized agencies in place of the other voluntary programs led to an increase in the percent of transfer expenditures financed by assessment, peaking at 35 percent in 1960. Since 1960, the assessed portion has fallen with the rapid increase in the specialized agencies' reliance on voluntary contributions. It also appears that these voluntary contributions to the specialized agencies have taken about an equal share from both the assessed budgets and the other voluntary programs, as their shares both declined during the period.

IV. Budget Growth in the U.N. System

There have also been some interesting trends in the total budgetary growth of the U.N. system over its history. Before 1960, the total U.N. system expenditures, in real 1987 U.S. Dollars, remained around one billion, and between 1980 and 1990 they have remained around 6 billion. The main change occurred between 1960 and 1980 when the total U.N. system expenditures jumped from one to six billion dollars. While all of the components experienced growth in the 1960 to 1980 period, the majority of this growth is attributable to the rapidly increasing expenditures of the other voluntary programs. In terms of expenditure type, this growth can almost entirely be attributed to growth in transfer oriented programs. Between 1960 and 1980, the annual growth in real transfer oriented expenditures averaged just over 10 percent. Table 3.1 below shows the average annual real rate of growth in U.N. system expenditures, divided by category, and the corresponding figures for the U.S. federal government.

Table 3.1 -- Average Annual Real Budget Growth

	1946-60	1960-70	1970-80	1980-90
U.N. Organization	6.43%	6.73%	7.07%	4.97%
S.A. Assessed	29.4%	4.33%	9.02%	1.42%
S.A. Voluntary	3.78%	44.8%	10.2%	0.50%
S.A. Total	29.7%	9.31%	9.08%	0.81%
Other Voluntary Programs	7.18%	10.9%	14.3%	-1.11%
U.N. System Total	32.4%	9.16%	10.3%	0.38%
U.S. Federal Government	2.70%	4.71%	5.14%	3.02%

U.N. Organization expenditures have grown more rapidly during every period than the U.S. federal government expenditures. The total U.N. system expenditures grew more rapidly than the U.S. federal government in every period except the 1980 to 1990. The evolution toward assessed specialized agencies during the 1950s, and toward voluntary contributions during the 1960s is also evident in these figures. This aggregation, however, masks the differing growth rates among the specialized agencies. Table 3.2 gives the average annual real growth rate of each specialized agency from 1960 to 1990, and its nominal 1990 total expenditures.[8]

[8] Because most were formed during the 1950s, the growth figures are from 1960 forward. Excluded are UNIDO, founded in 1986, WIPO, founded in 1974, and IFAD, founded in 1977. Expenditure figures include voluntary funds.

Table 3.2 -- Specialized Agency Budget Size and Growth

	1990 Expenditures (in millions)	Average Annual Growth
U.S. Federal Government	$1,027,600.0	4.29%
U.N. Organization	$1,416.8	6.26%
Food and Agriculture Organization (FAO)	$1,034.7	12.92%
World Health Organization (WHO)	$531.7	8.09%
International Atomic Energy Agency (IAEA)	$208.3	7.49%
U.N. Educational, Scientific and Cultural Organization (UNESCO)	$191.9	5.19%
International Labour Organisation (ILO)	$165.2	5.42%
International Telecommunication Union (ITU)	$80.3	8.34%
General Agreement on Tariffs and Trade (GATT)	$58.9	11.88%
International Civil Aviation Organization (ICAO)	$51.7	7.04%
World Meteorological Organization (WMO)	$38.6	11.18%
International Maritime Organization (IMO)	$21.6	11.71%
Universal Postal Union (UPU)	$16.3	7.56%

The largest of the U.N. specialized agencies, the FAO, was also the fastest growing during the 1960 to 1990 period. The more transfer oriented agencies, such as FAO, WHO, and UNESCO do tend to be larger than the other more regulatory agencies, but do not as a whole grow at a faster rate. The expenditures of every specialized agency grew faster than

those of the U.S. federal government between 1960 and 1990, and all but two experienced expenditure growth faster than the U.N. Organization itself. Four of the specialized agencies averaged over ten percent real annual growth in expenditures.

V. The Size and Growth of the U.N. System

One must be careful in distinguishing theories that explain government growth from those that explain government size.[9] This section will first explore theories which might aid in explaining the size of the U.N. budgets and then turn to theories of government growth. Traditional views of the U.N. system budgets hold that they tend to be inefficiently small because of free rider problems. Because no agency in the U.N. system has the power of coercive taxation and membership is voluntary, countries have an incentive to either not join or to join and under-represent their demand for the output of the agency. To the extent that the output of these agencies is non-excludable, a country may enjoy the benefits of the agency's output even if they are not a paying member. This can lead to lower than efficient memberships and smaller than efficient budgets. Also, countries that are members of these agencies may have an incentive to under-represent their demand for the agency's output in an attempt to secure a lower

[9] Mueller (1989, Ch. 17).

assessment. To explore the severity of the free rider problem, Table 3.3 presents the Membership of the specialized agencies in 1988.

Table 3.3 -- Membership of the Specialized Agencies

	1988 Membership
U.N. Organization	159
Food and Agriculture Organization (FAO)	158
World Health Organization (WHO)	167
International Atomic Energy Agency (IAEA)	112
U.N. Educational, Scientific and Cultural Organization (UNESCO)	158
International Labour Organisation (ILO)	150
International Telecommunication Union (ITU)	161
General Agreement on Tariffs and Trade (GATT)	122
International Civil Aviation Organization (ICAO)	156
World Meteorological Organization (WMO)	159
International Maritime Organization (IMO)	131
Universal Postal Union (UPU)	168
United Nations Industrial Development Organization (UNIDO)	152
World Intellectual Property Organization (WIPO)	123
International Fund for Agricultural Development (IFAD)	142

Besides GATT, IMO, IAEA, and WIPO all of the agencies appear to have a relatively universal membership. The IAEA has the lowest membership of all of the agencies, but has the

third largest budget according to Table 3.2. The lower membership agencies (GATT, IMO, IAEA, and WIPO) tend to be more regulatory oriented with excludable type benefits. In fact, in the more transfer oriented agencies, WHO and FAO, tend to have the most universal membership which is surprising considering that these agencies should be more likely to have free rider problems according the Hochman and Rodgers (1969) type analysis. The fact that most agencies tend to have a universal membership seems to contradict this free rider hypothesis. It is still possible, however, that the member countries of these agencies can secure lower assessments by under-representing their demand for the agencies' output. The incentive to free ride is, however, only present if the output of these agencies is non-excludable. Alternatively, if the output of these agencies is private benefits to member governments (such as increased electorial support or increased personal discretion), the free rider problem disappears.[10]

Theoreticians have also pointed to the small absolute size of the U.N. system budgets as evidence in support of their view. In terms of absolute size, every one of the specialized agency expenditures is less than the expenditures of even the smallest spending state in the U.S., South Dakota, with a 1990 budget of $1.2 billion. As a whole, the 1990 U.N.

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[10] Free rider problems also tend to disappear in situations of repeated dealings and when reputation is important. This may also explain why the U.N. does not appear to have a severe free rider problem.

system expenditures are approximately the size of the expenditures of the state of Iowa, and are only one-tenth the size of the expenditures of the largest spending state, California. The U.S. Federal government's yearly spending on foreign aid alone exceeds the total U.N. system expenditures by approximately $3 billion. Many international scholars have pointed to figures such as these to suggest that the U.N. budgets are too small. This is, however, not necessarily true. The international agencies produce vastly different services than state and national governments, and it may well be the case that the state and national governments are inefficiently large because of bureaucratic incentives and special interest influences.

The bureaucracy theory presented by Niskanen (1971) explains why government budgets tend to be inefficiently large because of the incentives of the bureaucrats. Frey (1991) extended this approach to the size of international bureaucracies. He proposes that the bureaucratic structure of most international agencies is much like that explained by Niskanen, only more severe because there is no central monitoring authority.[11] Frey also explains that each member nation has relatively little incentive to reduce the budget of

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[11] The presence of mismanagement and bloated bureaucracies in the U.N. and its components is widely recognized. For a detailed analysis of the management problems in the United Nations Organizations see Beigbeder (1987). The Heritage Foundation has also published many articles relating to this problem.

the organization, since they will only be able to capture a fraction of the benefits. According to this bureaucracy theory, the assessed budgets of these agencies, and the U.N. itself, would tend to be larger than would be efficient. Each agency could propose an all or nothing budget to its members, where each nation's assessment was just small enough to keep them from withdrawing from the organization. This original application of public choice theory to international organizations presents a picture in sharp contrast to the traditional view of U.N. system budgets. The traditional view holds that free rider problems and the lack of coercive taxation cause U.N. system budgets to be inefficiently small. Thus, in a synthesized approach, the size of the budgets will be determined by the power of the bureaucrats relative to the severity of the free rider and under assessment problems. If the free rider and under assessment problems are small and the bureaucrats have substantial power the budgets may be inefficiently large, and vice versa.

The lack of a central monitoring authority, the rational ignorance of the national voter, and the public good nature of reductions in the agency budgets serve to increase the power of the bureaucrats to attain large assessed budgets. The competition and contestability of the market for international organizations, and the budgetary rules used in the agencies serve to reduce the power of the bureaucrats. There are many competing agencies within and outside of the U.N. system, and

there are no constraints upon the formation of new international organizations. This, and the fact that the specialized agencies use a two-thirds voting rule on budgetary matters will lower the power of the bureaucrats. With less power, the bureaucrats will be less able to hide their true costs, and will not have as good of a bargaining position with which to expand their budgets past what would be efficient. Thus, the theoretical expectation is mixed. It seems just as possible that the budgets of these agencies may be inefficiently large as they are inefficiently small.

Another theory suggesting that these budgets should be inefficiently large comes from Schmidt (1969) who proposes that if a donor nation receives benefits from giving foreign aid, that the recipient nation may be able to exploit the donor into giving a larger than efficient amount. Because the donor nation receives benefits from giving, the recipient nation can refuse to take the aid unless a larger amount is given. By holding out in this manner, the recipient nation puts the donor nation on their "all-or-nothing" demand curve, just as the bureaucrat does to the sponsor in the Niskanen model. This theory would apply equally to both the assessed and voluntary portions of the budgets. Recipient nations may not only be able to achieve higher levels aid from the organization, but the organization may also be able to also achieve higher voluntary donations from other nations. This

theory would also suggest that U.N. budgets may be inefficiently large.

The bureaucracy theory presented above explains why the U.N. budgets may be larger than efficient, but does little to explain the budget growth in the United Nations system. The change in the power of the bureaucrats, which would be needed to explain growth, has not been substantial enough to conclude that bureaucracy theory is able to fully explain the rapid budget growth. There are, however, other theories that can be used to explain the budget growth in these international organizations. The fact that the U.N. system budgets have been growing more rapidly than world income can easily be explained if the demand for their output is income elastic. An alternative explanation for the rapid budget growth in the U.N. system comes from Baumol (1967) who has explained that because governments are labor intensive, their relative size will grow as technological advancements take place. Another possible explanation for the budget growth of the U.N. organization itself is the declining assessments of the major contributing nations. The U.S.'s assessment, for example, has declined from 39.89 percent to 25 percent, lowering the benefits from its individually controlling U.N. budget growth. Special interest activity has also been used as an explanation of rapid government growth (Tullock 1959, Becker 1983, North and Wallis 1982, Olson 1982, Murrell 1984). This special interest hypothesis provides perhaps the most intriguing

explanation for the rapid growth of the U.N. system relative to that of the U.S. federal government.

Vaubel (1991) explains reasons why international agencies will tend to supply more transfers to special interest groups than national governments. The general idea is that national governments will wish to pass their "dirty work" onto international organizations because doing so reduces the negative political consequences of providing special interest benefits by increasing taxpayers' information costs. Because it is initially less costly for national politicians to supply special interest benefits through the international organization than through their national government, when they equate their political losses at the margin, the degree of special interest activity will be larger in the international organization than in the national government. Many authors have found that special interest activity has been growing among national governments in recent times.[12] As national special interest activity increases, it may be disproportionately passed on to international organizations, causing them to grow more rapidly than national governments. This special interest hypothesis provides one possible explanation for the rapid growth in the budgets of the U.N. system experienced between 1960 and 1990.

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[12] Holcombe and Sobel (forthcoming) find that to be especially true during the 1960s and 1970s for the state governments in the United States.

The fact that GATT has been the second fastest growing agency may support this special interest hypothesis. In recent times, the shaping of international trade policy has been one of the most visible targets of special interest activity. While GATT is usually thought of as promoting reductions in international trade barriers, there is evidence to suggest that in some cases it may do just the opposite. GATT not only allows, but encourages the use of trade barriers for development and balance of payment reasons (Whalley 1990). Also, the proliferation of non-tariff barriers to trade since the 1970s has partially been blamed on the institutional structure of GATT (Deardorff 1987, Finger 1991). Applying the "dirty-work" hypothesis, national politicians find that providing protection to national special interest groups through GATT, rather than through the national government, is less politically costly. The rational ignorance of national voters, the higher voter information costs, and the politician's ability to sell the policy as an international compromise lessen the political losses associated with the imposition of trade restrictions. Thus, the rapidly increasing budget of GATT may be attributable to the increasing influence of national special interest groups.

The evidence from the previous section showing that the membership of these agencies tends to be relatively universal is also consistent with this special interest hypothesis. National governments would have an incentive to free ride on

these international organizations if their output was non-excludable. If, however, the output of these international organizations is primarily aimed at providing special interest benefits, it is a private and excludable good. In this case, national governments would have to join the international organization in order to "purchase" the additional special interest benefits. So the relatively universal membership of these organizations is consistent with the hypothesis that their output is excludable, private, special interest benefits.

The increasing influence of national special interests, however, cannot fully explain the rapid U.N. budget growth. As will be discussed in the following section, many larger U.N. member nations have become increasingly dissatisfied with the large size and growth of the U.N. budget. Because the biggest contributing nations should also be the largest purchasers of national special interest benefits, their disapproval with the size of the U.N. budget seems to suggest that at least some of the budget growth can be attributed to nationally exogenous forces (i.e. forces other than the growing demand for national special interest benefits).

The membership growth in the organization, which has mainly been smaller nations, could also explain part of the budgetary growth using a median voter type model. The median voter model has its origins in the works of Black (1958), Downs (1957), and Bowen (1943). It proposes that when voters

have single peaked preferences, and they can be aligned along a single dimension continuum on an issue, political platforms will cater to the decisive voter, which corresponds to the median voter under simple majority rule.[13] Assume, for example, that nations' preferences for the level of a redistributive program are inversely proportional to their assessment level, the percent of the budget for which they are assessed. If a vote was taken by simple majority, the level of the program that would defeat all other levels is the one most favored by the decisive voter nation, the nation with the median assessment level. As new, poorer members are added to the United Nations, not only does the percent of the budget that each existing member nation is assessed (its assessment level) decline, but also the new decisive voter is further down this assessment scale. Because the new decisive voter nation has a lower assessment level, it will wish to consume more U.N. spending at the new lower "tax" price. Meltzer and Richard (1981, 1983, 1991) and de Tocqueville ([1835] 1965) have proposed this hypothesis as an explanation for the growth in national government spending. Kenny (1978) extending upon

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[13] The stable median voter outcome is, however, dependent upon the assumptions of single-peaked preferences and a single-dimensional issue. McKelvey (1976) shows that when the issue space is extended into more than one dimension, a stable median voter outcome does not necessarily dominate. Chapter 5 of this dissertation deals with this issue directly, and finds that U.N. General Assembly voting coalitions are very stable. Other authors have also shown that U.N. voting patterns can be adequately explained by a single dimension model.

the work of Lovell (1975) shows that the lowering of the tax price to the decisive voter in this manner leads to an increase in demand for transfer spending, but an ambiguous change in the demand for government services. The fact that most of the U.N.'s budgetary growth can be attributed to transfer growth is consistent with this hypothesis.

VI. Testing the Theories of U.N. Budget Growth

This section tests the above mentioned theories for their ability to explain the growth of the U.N. budget using ordinary least squares regressions. The dependent variable is a time series of the natural logarithm of the real U.N. organization's budget from 1946 to 1988. Each of the independent variables, which are discussed below, are also included in natural logarithm form. While there is no perfect proxy for the growth of special interest influence, *The Yearbook of International Organizations*, published by the Union of International Associations, does provide some data on the number of non-governmental international organizations. These include organizations such as the International Compressor Remanufactures Association, the International Corrugated Packaging Foundation, the International Council of Private Label Manufacturers Association, the International Doll Makers Association, and the International Herb Growers

and Marketers Association. The advantage of using this data is that it includes these types of interest groups for all nations of the world. The number of these organizations is given for selected years and interpolation was used to obtain the numbers for intermediate years. If the special interest hypothesis is correct, a significant positive relationship between the number of these international special interests and the size of the U.N. budget should be observed.[14]

The assessment level of the decisive voter is also included in the regression. Because budgetary decisions are made by a two-thirds majority, the proper decisive voter is the nation one-third of the way down from the top assessment. If the decline in the decisive voters assessment has contributed to the budget growth, a significant negative coefficient should be estimated for this variable. The regressions were performed with and without the inclusion of the total U.N. membership. If the United Nations does truly produce pure world public goods, adding a new member should not change the optimal level of production, and thus it should not change the U.N. budget. As discussed earlier, however, the addition of new members does decrease the median assessment, so including the membership variable changes the

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[14] The random error associated with the use of interpolation may cause the coefficient on this variable to be biased toward zero. This is perhaps more of a problem in the change specification of the regression. Because the data are interpolated, and not actual observations, this variable more correctly represents some average annual growth of special interests.

meaning of the estimated coefficient on the median assessment variable. When the membership variable is included, the coefficient will measure the effect of a change in the median assessment holding membership constant, that is through a redistribution of the assessment scale to other members.[15] The assessment levels of the largest contributors are also included in the regression. If the changing incentive for larger contributors to control the budget has influenced the growth of the U.N. budget, a significant negative relationship should be observed between the assessment level of these nations and the U.N. budget. The nations whose assessment levels are included are Canada, China, France, India, USSR, UK, and USA.

Preliminary testing showed the real U.N. budget to be nonstationary. This can cause spurious correlation in the regression, where a significant result is obtained solely because the dependent variable and an independent variable both follow an upward trend, for example. The dependent variable was borderline trend stationary, and for this reason a time trend is also included in the regression. This will solve the problem of spurious correlation if the dependent variable is truly trend stationary. Table 3.4 shows the results from these regressions both with and without the inclusion of the real U.S. federal budget.

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[15] Because the regression is also holding constant the assessment rates of certain members, this redistribution would have to be to other members than those included.

Table 3.4 -- Determinants of United Nations Budget (Dependent Variable is Natural Log of U.N. Budget)

Independent Variable (natural log)	Coefficient Estimate (absolute t-value)			
Constant	6.13** (2.42)	7.18*** (3.05)	3.81 (1.42)	5.81** (2.08)
Trend	-0.015 (0.62)	-0.007 (0.31)	-0.049 (1.68)	-0.026 (0.84)
Total Special Interests	0.580*** (2.88)	0.588*** (3.18)	0.861*** (3.59)	0.729*** (3.03)
Decisive Voter's Assessment	-0.372** (2.54)	-0.412*** (3.04)	-0.212 (1.31)	-0.323* (1.95)
Canada's Assessment	0.948 (1.53)	1.193** (2.07)	0.780 (1.30)	1.06* (1.78)
China's Assessment	0.218** (2.37)	0.230** (2.71)	0.230** (2.60)	0.234*** (2.75)
France's Assessment	-0.950 (1.26)	-0.790 (1.13)	-1.08 (1.49)	-0.887 (1.26)
India's Assessment	-0.058 (0.35)	-0.091 (0.59)	-0.018 (0.11)	-0.065 (0.41)
USSR's Assessment	-0.114 (1.09)	-0.045 (0.45)	-0.246** (2.04)	-0.125 (0.95)
UK's Assessment	0.203 (0.70)	0.265 (0.99)	0.466 (1.51)	0.388 (1.30)
USA's Assessment	0.633 (1.16)	0.555 (1.11)	0.089 (0.15)	0.293 (0.51)
United Nations Membership	--	--	0.661* (1.97)	0.336 (0.92)
Real US Federal Budget	--	-0.316** (2.65)	--	-0.257* (1.90)
R-squared	0.981	0.984	0.983	0.983
Observations	43	43	43	43

Notes: * indicates significance at the 10% level, ** at the 5% level, and *** at the 1% level

The variable reflecting international special interest group pressure is highly significant in all four specifications. A ten percent growth in the number of international special interest groups increases the real U.N. budget by between six and eight percent. The specifications including the membership variable produce a larger coefficient on the special interest variable. The assessment level of the decisive voter is negative as expected and significant in three of the four specifications. A ten percentage point decline in the decisive voter's assessment level is estimated to cause between a three and four percent increase in the real size of the U.N. budget. As expected, the estimated coefficient on this variable falls when the membership variable is included. Using the estimates from these regressions and the actual data values, the growth of special interests has accounted for three times as much growth in the U.N. budget as the declining decisive voter's assessment. There appears to be little support for the hypothesis that the declining assessment levels of the larger contributors has caused growth in the U.N. budget. Besides the estimated coefficient on the USSR's assessment level in one of the specifications, the only significant coefficients have the opposite sign from what would be expected. Membership in the United Nations is significant in one of the two specifications, and positive. While this result is sensitive to the inclusion of the U.S. federal budget variable, the

positive, significant coefficient would suggest that the U.N. is not producing only pure world public goods. Finally, in the specifications that include the real U.S. federal budget, it is significant and negative. If this variable was a proxy for some underlying growing demand for government services that has occurred for both the U.S. government and the U.N., or if it reflected that growing special interest group influence has caused both budgets to rise, the coefficient estimate should have been positive. The negative coefficient suggests that possibly the services provided by the U.N. and the U.S. government are substitutes, in which case people demanding more from one, demand less from the other. It may also be consistent with another hypothesis of governmental free riding. Becker and Lindsay (1993) explain that a government's optimal response to increased provision of a public good from another source should be more funding for the provision of the good. They provide evidence in favor of the view that state governments free ride by actually reducing their funding to schools of higher education when private citizens increase their charitable funding. The negative coefficient estimate would also be expected if the United Nations is free riding on U.S. provision of world public goods. Whatever the reason, it is estimated that a ten percent increase in the real U.S. federal budget is associated with about a three percent decline in the real budget of the United Nations Organization.

If the real U.N. budget is difference, rather than trend, stationary then the inclusion of the time trend may not solve the problem of spurious correlation. Running the model using the changes in all of the variables can overcome the spurious correlation problem, but it introduces problems of its own. Even if the series are loosely related in levels, that is to some degree cointegrated, they do not necessarily have to change together in a particular period. This will cause the model estimated in change form to have coefficients biased toward zero. Table 3.5 contains the results of the first difference form of the regressions.

In this change form, the only one of the independent variables that is significant is the special interest group variable. While this lends greater support for the special interest hypothesis of U.N. budget growth, it does not necessarily contradict the results of the other regressions. As mentioned before, two variables do not have to change together every period to be related in level form.

Table 3.5 -- Determinants of United Nations Budget (Dependent Variable is Change in Natural Log of U.N. Budget)

Independent Variable (natural log)	Coefficient Estimate (absolute t-value)			
Constant	-0.008 (0.22)	0.005 (0.13)	-0.020 (0.55)	-0.060 (0.15)
Change in Total Special Interests	0.621** (2.16)	0.521* (1.76)	0.677** (2.31)	0.575* (1.86)
Change in Decisive Voter's Assessment	-0.126 (0.81)	-0.132 (0.86)	-0.095 (0.60)	-0.111 (0.69)
Change in Canada's Assessment	0.217 (0.46)	0.226 (0.49)	-0.093 (0.17)	0.016 (0.03)
Change in China's Assessment	0.040 (0.55)	0.041 (0.58)	0.036 (0.50)	0.039 (0.53)
Change in France's Assessment	-0.772 (1.55)	-0.675 (1.35)	-0.579 (1.09)	-0.561 (1.05)
Change in India's Assessment	0.076 (0.51)	0.044 (0.29)	0.107 (0.70)	0.070 (0.45)
Change in USSR's Assessment	-0.306 (1.64)	-0.206 (1.03)	-0.310 (1.66)	-0.225 (1.10)
Change in UK's Assessment	0.300 (0.87)	0.338 (0.99)	0.403 (1.13)	0.400 (1.12)
Change in USA's Assessment	-0.009 (0.02)	0.002 (0.01)	-0.214 (0.46)	-0.138 (0.29)
United Nations Membership	--	--	0.374 (1.01)	0.251 (0.65)
Change in Real US Federal Budget	--	-0.142 (1.29)	--	-0.119 (1.01)
R-squared	0.271	0.309	0.295	0.318
Observations	42	42	42	42

Notes: * indicates significance at the 10% level, ** at the 5% level, and *** at the 1% level

VII. Budgetary Reforms during the 1980s

In 1979 the secretary general of the U.N. proposed a goal of zero real budget growth during the 1980s because of growing pressure from the U.N.'s major contributors. As can be seen in Table 3.1, the average annual budget growth was smaller during the 1980s than any previous decade. This change, however, did not solve the problems with the U.N.'s major contributors. By 1986 both the U.S. and the U.S.S.R. were substantially behind in their payments and the U.N. was facing its worst financial crisis in history. Using the threat of not paying, the U.S. pressured the U.N. for passage of a package of wide-ranging budgetary changes recommended by the "Group of 18". This package proposed that the U.N., over the next three years, reduce its staff by 15%, eliminate 25% of the assistant and undersecretary-general posts, lower U.N. salaries and fringe benefits, require host governments to finance U.N. meetings held away from the headquarters, and consolidate some of its activities. Most of the proposals from this report were passed by the General Assembly on December 19, 1986. The draft of the report that was adopted also included provisions giving major contributors more say in budgetary matters.

Despite these budgetary reforms, the U.S. debt to the U.N. kept growing throughout the late 1980s and early 1990s. In 1993, the U.S. owed $1.1 billion of the $1.85 billion owed

in total to the U.N., and the U.S. was still demanding further budgetary reforms. The use of contribution withholding to pressure for changes in the U.N. is not new, however. The U.S.S.R. is well known for its refusals to pay for peacekeeping operations of which it did not approve.

VII. Conclusion

Almost half of the total U.N. system expenditures in 1990 were financed through assessments on member nations. As public finance theory would suggest, assessments are heavily relied upon to finance expenditures on the provision of public goods, regulation, and peacekeeping. Only 25 percent of transfer oriented expenditures, however, are financed through assessments. While the ability-to-pay criterion is mostly used to determine budget contributions, some specialized agencies that produce public goods and provide regulation base their assessments on member countries' usage.

For many years, theoreticians have pointed to the free rider problem associated with voluntary membership as one reason that the U.N. system budgets are small in absolute terms. However, the agencies most susceptible to this problem tend to be the most universal in membership yielding little support to this free rider hypothesis. Applications of

bureaucracy theory also make questionable the traditional claim that U.N. budgets are inefficiently small.

The rapid growth in real U.N. system expenditures between 1960 and 1980, averaging almost 10 percent annually, can almost solely be attributed to growth in transfer oriented programs. In most time periods, the U.N. Organization and all of the specialized agencies grew more rapidly than even the U.S. federal government. One possible explanation for the rapid growth in the U.N. system budgets is the dirty-work hypothesis of Vaubel (1991). This hypothesis maintains that international organizations will tend to supply a large degree of national special interest benefits. The fact that most U.N. agencies tend to have a relatively universal membership is consistent with this hypothesis because if national politicians receive private benefits from membership in these organizations the incentive to free ride disappears.

The dissatisfaction with the large budget growth by the member nations of the U.N., however, suggests that some of the growth is due to factors other than the members' growing demand for special interest benefits. The falling assessment level of the decisive budgetary voter, because of increased U.N. membership, also seems to account for some of the budgetary growth not attributed to these other factors.

CHAPTER 4

ARE THE *DE FACTO* MEMBERS OF GATT TRUE FREE RIDERS?

I. Introduction

The General Agreement on Tariffs and Trade (GATT) is an autonomous organization related to the United Nations. Founded in 1948, it establishes and administers code for orderly conduct of international trade through managed retaliation and the sponsoring of multilateral negotiations such as the Uruguay Round of the late 1980s and early 1990s. There were 23 founding nations in GATT, and as of June 1990 membership had grown to 97 contracting parties and 28 other countries that apply the GATT on a *de facto* basis.

The full members of GATT are known as contracting parties. These countries have signed the General Agreement and are bound to the decisions of GATT. A non-member country may become a contracting party to the GATT by going through a review process and getting the consent of the existing contracting parties. The contracting parties are assessed to pay for the operations of GATT through a scale of

contributions based upon their respective shares of world trade, with a minimum contribution of 0.03% of the budget. The United States is the largest contributor to GATT, with a 1990 contribution of 7.7 million dollars.

The *de facto* members are able to capture the benefits of GATT without bearing the full costs of membership. They receive the gains from reduced trade barriers on their exports but are not assessed for any portion of GATT's budget. The *de facto* members can also avoid other costs of GATT membership because they are not contractually bound by the GATT to reciprocate trade barrier reductions. This special form of membership can only be acquired by an independent country that is a former territory of a contracting party to the GATT. Because they were once part of a country that applied the GATT, they automatically receive a *de facto* membership upon their independence. To become a contracting party, a *de facto* member only has to advise the Director General of GATT that it wishes to accede, which is a relatively easy procedure. The only additional benefit that a *de facto* member receives when it becomes a contracting party is voting privileges in the organization.

Much work has been done on the bargaining among the members of GATT and its game theoretic nature (See, for example, Hungerford 1991) and the effectiveness of GATT at breaking down world trade barriers, especially in light of the more recent proliferation of non-tariff barriers (Deardorff

1987). Other authors have noted that GATT participation is not solely based on the free market orientation of a nation, but also on concerns for security, containment, and differentiation, as well as economic interests (Mendez 1992 and Haus 1991). However, little formal empirical analysis has been done on the nature of *de facto* membership and the extent of free riding on international organizations such as GATT.

First, changes in GATT's institutional policies toward *de facto* membership will be discussed, starting with the General Agreement and proceeding to current policies. A distinction between two types of free riders will be made, and then a logit model of GATT membership will be estimated. These results will be used to obtain a quantifiable measure of the degree to which the *de facto* members of GATT are free riders. An empirical analysis will be performed to see exactly how much of a free ride the *de facto* members get, by looking at the amounts of tax revenues they collect on international transactions and their potential budget contributions. Possible reasons why GATT does not try to solve the free rider problem will be discussed in the final section.

II. A Brief History of *De Facto* Membership

Throughout the history of GATT there have been 20 *de facto* members that have gained accession to become full

contracting parties to the GATT. The average length of time until succession for these countries was 2.3 years, with only two taking more than 5 years, one taking 6 and the other taking 15 years. The current 28 *de facto* members have had that status for an average of over 17 years, and as of 1990, all but two had been *de facto* members for more than 10 years. The average tenure of the current *de facto* members is longer than at any other point in GATT's history, and of the *de facto* members that have become full contracting parties, the vast majority had the *de facto* status for only one year. Has this become just another form of membership, instead of a stepping stone to becoming a full contracting party? Are these countries free riders on the GATT?

One of the main reasons for the proliferation of the average tenure of the *de facto* members is the change in GATT policy. The initial policy for autonomous former territories of the contracting parties was set forth in Article XXVI:5(c) of the General Agreement. It states that "such territory shall, upon sponsorship through a declaration by the responsible contracting party establishing (the territory's independence), be deemed to be a contracting party." However, by 1960, the contracting parties' sentiments about the immediate accession of the newly independent territories had changed. In the Recommendation of 18 November 1960 (BISD, Ninth Supplement, page 16) made by the contracting parties, the status of *de facto* membership was created for the purpose

of allowing new nations time to consider their future commercial policy, and it was only to be granted for a two year period. The biggest change in GATT policy toward *de facto* members is contained in the Recommendation of 11 November 1967 (BISD, Fifteenth Supplement, page 64). Because of this recommendation, the *de facto* members can now continue their status indefinitely provided that they adhere to the general intents of the GATT in their trade with the contracting parties.[1] The contracting parties cite the main reason for the change in policy as the repeated requests by many of the *de facto* members for prolongations of their two-year period, all of which had been granted. The evolution of the GATT policy toward *de facto* membership has enabled the growth of the current free rider problem faced by the GATT. Of the six nations that were *de facto* members at the time this policy went into effect, only two have acceded to become contracting parties, and since that time there have been 28 new *de facto* members, of which only four have acceded to become contracting parties.

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[1] The actual degree to which the *de facto* members adhere to the general intents of GATT is questionable and will be discussed in a later section.

III. Two Types of Free Riders

The usual definition of a free rider is someone who receives the benefits without paying. It is widely recognized that the free rider problem may cause an undersupply of services. It is important to recognize, however, that this group of free riders may be further subdivided into two groups. Within the context of the *de facto* members, there are those that would, if threatened with exclusion, join GATT and bear the full costs of membership. These countries value the benefits of GATT more than the costs of membership. They will be called "true free riders". The second group is those countries that, if threatened with exclusion, would opt out of membership. These countries value the benefits of GATT less than the full cost of membership. They will be called the "induced riders". This distinction is important because in a free rider situation, only the true free riders contribute to the undersupply of services. They are the countries from which GATT loses revenues and trade barrier reductions. GATT would not be able to get revenues or trade barrier reductions from the induced riders because they would opt out of membership. These countries are only willing to be *de facto* members because they are not charged the full cost of membership. If they had been simultaneously required to pay the full cost of membership when they were offered *de facto* membership, they would have not taken it.

IV. Are the *De Facto* Members of GATT True Free Riders?

The purpose of this section is to find an empirical model that is a good predictor of GATT membership. A logistic regression model is estimated, on a sample that includes the contracting parties and non-members, but excludes the *de facto* members. The coefficient estimates from this regression are then applied to the characteristics of the *de facto* members to obtain predicted probabilities of their joining GATT if faced with exclusion. The independent variables in this regression include many important potential determinants of GATT membership. On theoretical grounds, variables that proxy government type, trade philosophy, trade sector size, economic factors, and labor force characteristics are expected to be correlated with the probability of a nation joining GATT.

Variables reflecting whether the government of the country is a democracy or republic are included; the excluded category is military and communist type governments. A variable reflecting that the country gained its independence after the time of GATT's formation is included. There is also reason to believe that membership in OPEC influences membership in GATT. Of the 13 countries in OPEC, only 4 are contracting parties to the GATT and one other is a *de facto* member. According to the share of OPEC crude petroleum production in 1990, none of the top five countries, that account for over 66 percent of OPEC production, are GATT

members. The four that are GATT members account for only 22 percent of OPEC production and the one *de facto* member accounts for only 3 percent. One possible reason for this observed phenomenon is that OPEC serves as its own trade organization and attempts to dictate the world terms of trade for oil in an attempt to secure monopoly profits. It is also possible that membership in OPEC is correlated with other unmeasured country characteristics which influence GATT participation. There are other possible explanations for the low GATT participation rate of OPEC members, and the variable denoting OPEC membership is included because of the likelihood that it is an important determinant of GATT membership.

Several variables are included to proxy the trade sector of the country: the balance of trade as a share of GDP, trade sector (imports plus exports) as a share of GDP, and the country's share of world trade. To give a broad measure of the economy, the GDP of the country is included. Labor force characteristics that give measures of productivity, health, and the structure of the economy may also be important predictors of GATT membership. The percent of the work force in organized labor unions, literacy rate, infant mortality rate, percent of the work force in agricultural production, and the percent of the country's land that is arable are included for this reason. The later two variables take on

extra relevance because trade barriers in agriculture tend to be one of the more problematic areas for GATT.[2]

The model is estimated on the full sample of 97 contracting parties to GATT and 41 non-member nations. The 28 *de facto* members are excluded from the sample. Data for 1990 was used when it was obtainable and in cases where it was not, the most recent data prior to 1990 was used. The descriptive statistics for the variables can be found in Appendix D. The coefficient estimates from this logistic regression are presented in the column of Table 4.1 labeled the member model.

GATT's inception was spurred by the need for reductions in the large tariff barriers to trade imposed during the 1920s and 1930s. The original members were among the most industrialized nations in the world. It is possible that the original members formed GATT for different reasons than the later members joined. To explore this possibility, the model is re-estimated on a sample that excluded not only the *de facto* members, but also the 28 GATT member nations as of 1950, and the coefficient estimates from this model are presented in the last column of Table 4.1, labeled the joiner model. The predictive ability of these models, under the maximum probability rule, is given in Appendix C.

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[2] Becoming a GATT member might affect some of these variables, such as the size of the trade sector. However, this does not introduce a simultaneity bias because the change in the values of these variables does not feed back into the decision to join GATT. For example, becoming a GATT member might increase the size of a country's trade sector but this does not then make the country more likely to join GATT.

Table 4.1 -- GATT Membership, Logistic Regression Results

Variable	Coefficient Estimate Member Model	Coefficient Estimate Joiner Model
Constant	-3.8549** (2.226)	-4.0393** (2.279)
DEMOCRACY	1.4155** (2.009)	1.1564 (1.441)
REPUBLIC	1.2314** (2.093)	1.0677* (1.712)
INDEPENDENCE AFTER 1947	2.1061*** (3.463)	2.4474*** (3.700)
OPEC	-2.2513*** (2.576)	-2.2341** (2.285)
BALANCE OF TRADE AS A SHARE OF GDP	0.018836 (1.365)	0.019434 (1.365)
TRADE SECTOR AS A SHARE OF GDP	0.0018573 (0.210)	0.0043481 (0.474)
SHARE OF WORLD TRADE	2.2339* (1.845)	1.5364 (1.185)
GDP	-0.0041041 (1.428)	-0.0026361 (1.001)
PERCENT UNION	-0.0082319 (0.801)	-0.0099582 (0.931)
LITERACY RATE	0.029802** (2.028)	0.026854* (1.780)
INFANT MORTALITY	0.025865** (2.057)	0.024392* (1.800)
LABOR FORCE IN AGRICULTURE	-0.029312* (1.819)	-0.028831* (1.780)
PERCENT ARABLE LAND	0.053977** (2.535)	0.056586*** (2.590)
N	138	110
Chi-Squared	49.02552	43.66840
R^2	0.3229548	0.3520982
Pseudo R^2 (1)	0.1795018	0.1774479
Pseudo R^2 (2)	0.2919660	0.3005684

Notes: Absolute t-ratios are given in parenthesis and the significance levels are * = 10%, ** = 5%, and *** = 1%. The first pseudo R-squared is calculated by the Cragg and Uhler (1970) method, and the second is from McFadden (1974).

The *de facto* members receive the benefits of GATT trade barrier reductions without being contractually bound to reciprocate them, and without contributing to GATT finances. If, to capture the benefits of GATT, a *de facto* member would be willing to incur the costs of membership but doesn't apply for full membership because they receive the benefits anyway, then they would be considered a true free rider on the GATT.

A quantifiable measure of the true free rider problem is achieved by using the coefficient estimates from the regression models to get predicted probabilities for the countries that are *de facto* members.[3] This will give an idea of whether or not they would be expected to join if they were given an ultimatum to either become full members (contracting and paying parties) or not to join at all and be excluded from

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[3] Note that this method can only be used without bias if all of the possible free riders can be excluded from the sample. If some of the non-member nations were also potential free riders, their inclusion in the sample would bias the results toward classifying less of the *de facto* members as free riders. Note also that if the free rider problem was solved, that the benefits to any given country from joining GATT might increase, inducing more countries to join. Thus, the results may not be an accurate measure of which countries would join if the free rider problem were solved. However, this is a different question than asking which of the *de facto* member are free riding on the current level of GATT benefits. Because it is the latter question that this paper addresses, the predicted probabilities are more property viewed as the probability of a country joining if it was given an individual ultimatum.

the benefits of GATT.[4] Recall that the sample for both of the earlier regressions included only the contracting parties and non-member nations. Table 4.2 lists the *de facto* members, their predicted probabilities of being full members under an ultimatum, from both the member and joiner models, and their year of independence.

Table 4.2 -- Predicted Probabilities for the *De Facto* Members

De Facto Member Country	Predicted Probability from the Member Model	Predicted Probability from the Joiner Model	Year of Independence
Algeria	0.57395	0.49826	1962
Angola	0.58617	0.58673	1975
Bahamas	0.88280	0.86687	1973
Bahrain	0.56355	0.61792	1971
Brunei	0.89509	0.90204	1984
Cambodia[5]	0.82700	0.81593	1953
Cape Verde	0.66303	0.67598	1975
Dominica	0.76790	0.73806	1978

[4] The methodology used here, fitting the regression to one group and then using the estimates to infer about the outcomes of the excluded group, is widely used in the analysis of discrimination in labor markets. For examples of this technique see Oaxaca (1973), Blinder (1973), and Even and Macpherson (1990). It is a type of out of sample forecasting similar to Blinder-Oaxaca decomposition.

[5] Cambodia (Kampuchea) has been approved to become a contracting party. However, it has been unable to comply with the terms of its Protocol of Accession and thus is still considered a *de facto* member even though it already contributes to the GATT budget. Pre-1960 it was considered an associate government.

Table 4.2 -- Continued

De Facto Member Country	Predicted Probability from the Member Model	Predicted Probability from the Joiner Model	Year of Independence
Equatorial Guinea	0.95731	0.95153	1968
Fiji	0.77283	0.75190	1970
Grenada	0.90327	0.88636	1974
Guinea-Bissau	0.77904	0.75457	1973
Kiribati	0.82974	0.79420	1979
Mali	0.54811	0.51103	1960
Mozambique	0.38449	0.37601	1975
Papua New Guinea	0.43253	0.42513	1975
Qatar	0.26789	0.28861	1971
St. Kitts and Nevis	0.89394	0.88122	1983
St. Lucia	0.75324	0.74854	1979
St. Vincent & The Grenadines	0.97754	0.97531	1979
Sao Tome & Principe	0.61486	0.61301	1975
Seychelles	0.87861	0.84727	1976
Solomon Islands	0.63499	0.58558	1978
South Yemen	0.24427	0.23247	1967
Swaziland	0.81780	0.84090	1968
Tonga	0.90615	0.89029	1970
Tuvalu	0.79295	0.75847	1978
United Arab Emirates	0.58138	0.55846	1971
Sum of probabilities	19.73042	19.37265	
Number > 0.5	24	23	

By applying the coefficient estimates from these regressions to the characteristics of the *de facto* members, this method estimates that approximately 19 or 20 of the 28 *de facto* members would become full paying members to maintain the benefits of GATT and are, by this measure, true free riders.[6]

V. Institutional Changes and the Free Rider Problem

To better estimate the impact of the 1967 change in policy toward the *de facto* members, two models are estimated. They are similar to the joiner model estimated earlier with two major exceptions. First, instead of using a dummy variable for nations that gained their independence after 1947, five variables are included, each containing the actual year of independence for different time periods. The first variable contained the year of independence if it is between 1948 and 1957, the second contained the year of independence if it is between 1958 and 1967, and so on up until the fifth variable which contained the year of independence if it is after 1988. These periods are chosen so that one would coincide with the period directly after the change in GATT

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[6] The logit model estimates for each country a probability that they would become a full member. The sum of these predicted probabilities gives an expected number of full members from the *de facto* members. Alternatively, counting the number of countries with predicted probabilities greater than 0.5 yields expected numbers of 23 and 24.

policy in 1967. Second, one of the expanded models is estimated on a sample that included the de facto members and, along with the contracting parties, gave them a value of one for the dependent variable.

Table 4.3 contains the predicted probabilities, from these regressions, of being a contracting party and of being a *de facto* member for a representative country that gained its independence at the midpoint of each period. The probability of being a *de facto* member is calculated by taking the difference between the probability of being any type of member, from the joiner model that gave the *de facto* members a one for the dependent variable, and the probability of being a contracting party, from the model that excluded the *de facto* members from the sample.

Table 4.3 -- Probabilities of Types of Membership for Newly Independent Countries 1948-

Year of Independence	Probability of being a contracting party in 1990	Probability of being a *de facto* member in 1990
1948-1957	0.530526	0.057017
1958-1967	0.985719	0.001130
1968-1977	0.074746	0.301699
1978-1987	0.034121	0.050135
1988-	0.000050	0.000000

Note the large increase in the probability of being a *de facto* member in the period following the change in policy, and the drop in the probability of being a contracting party.

These calculations, as well as the casual evidence, suggest that the change in GATT policy in 1967 had a substantial negative impact on the rate of accession of the *de facto* members.

VI. How Much of a Free Ride do the *De Facto* Members Get?

There are 28 *de facto* members that enjoy the benefits of GATT but do not contribute to the budget and may opt out of suffering the other non-monetary costs of membership by not fully reciprocating trade barrier reductions. For these *de facto* members, there are several costs of becoming a contracting party in GATT. First, each contracting party is assessed yearly a fraction of GATT's budget that is levied in proportion to a member country's share of world trade. The budget covers things such as the costs of meetings, the rent and other costs of the headquarters, technical cooperation missions and other official visits overseas, trade policy courses, the first full year of operation of the Trade Policy Review Mechanism, as well as the salaries and related costs of the GATT staff. The ability to opt out of budget contributions, however, is probably not the major source of the free ride for the *de facto* members. On the basis of the 1990 budget, and contribution scales, the 28 *de facto* members in total would be assessed for just under two percent of

GATT's budget, or $879,172 annually. Of the 28 *de facto* members, 21 would be subject to the minimum budget contribution of 0.03%, which would be $15,014 each.

A second cost of GATT membership for a government is lost tariff revenue. However, most authors who have explored the degree to which government revenue considerations play a role in trade barrier decisions conclude that it is not one of the major considerations (for a good overview see Deardorff, 1987). The third, and probably the largest, cost of GATT membership for a government is the political losses suffered from special interests in certain industries that face increased competitive pressures from foreign firms once trade barriers are lowered. The parties who gain from protectionist policies will be willing to invest time and resources to protect their rents. Losing the political support of these protected groups can be a major cost to government leaders, especially in smaller countries such as the *de facto* members, and is probably the largest cost of GATT membership.

While the current GATT policy says that the *de facto* members must adhere to the general intents of GATT, big tariff differences exist between the GATT contracting parties and the *de facto* members. The average revenue from taxes on international trade and transactions as a share of total trade in 1990 for GATT contracting parties was 2.8%, while it was 20.8% for the *de facto* members, and 10.0% for the nonmembers

of GATT.[7] However, a mitigating factor might be that under Articles 36, 37, and 38, passed in 1965, GATT allows developing countries protectionist trade barriers for both balance of payments and development reasons (see Whalley 1990). To take these factors into account, a regression is run to see if the *de facto* members still have larger taxes than the GATT contracting parties even after adjusting for things such as development status and balance of payments problems. Included in the regression are some of the same variables in the logit model; government type, trade factors, and independence after GATT's formation. Other variables are included to reflect status as a developing country, status as a lesser developed country, *de facto* membership status, and nonmember status. The results of this regression are given in Table 4.4. The sample includes all countries for which the data are available. The data sources and descriptive statistics for these variables can be found in Appendix D.

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[7] The International Monetary Fund includes the following items in the calculation of taxes on international trade and transactions: import duties, customs duties, other import charges, export duties, profits of export or import monopolies, exchange profits, exchange taxes, and other taxes on international trade and transactions.

Table 4.4 -- International Taxes as a Share of Trade, OLS Regression Results

Variable	Coefficient Estimate
Constant	-0.0383 (0.666)
DEVELOPING	-0.0618 (1.157)
LESSER DEVELOPED	0.01894 (0.509)
DEMOCRACY	0.05880 (1.193)
REPUBLIC	0.08419* (1.895)
BAL. OF TRADE AS A SHARE OF GDP	-0.0019* (1.893)
TRADE SECTOR AS A SHARE OF GDP	-0.000588 (1.631)
INDEPENDENCE AFTER 1947	0.11406*** (2.751)
DE FACTO MEMBER	0.14127*** (2.611)
NONMEMBER	0.10340** (2.330)
F-statistic *DE FACTO* = NONMEMBER	0.3427
N	120
R-squared	0.23

Notes: Absolute t-ratios are given in parenthesis and the significance levels are * = 10%, ** = 5%, and *** = 1%.

From the regression results, even after controlling for many country specific variables, the *de facto* members have 14 percent higher taxes on international trade than the contracting parties. It is also important to note that the coefficient estimate on *de facto* membership is not

significantly different from that of the nonmembers using the standard F-test. This suggests that not only do the *de facto* members have significantly higher taxes on international trade than the contracting parties, but that they are similar to those of the nonmembers. Thus while the GATT policy states that the *de facto* members must adhere to the general principles of GATT, their international taxes are not significantly different from nonmembers. This suggests that the major source of the free ride of the *de facto* members is the ability to circumvent trade barrier reductions. It also suggests that GATT has not been strictly enforcing their regulations on the *de facto* members.

VII. Why doesn't GATT Solve the Free Rider Problem?

For some countries, *de facto* membership may just be a stepping stone to becoming contracting parties, but for others it has become a long-time safe haven from the contractual obligation of the sometimes demanding trade barrier reductions negotiated in the GATT rounds. To the extent that the current *de facto* members are free riding, GATT could threaten exclusion from the benefits unless they incur the full costs of membership. However, the budgetary benefits to the contracting parties from the accession of the *de facto* members

may be small, given their relatively small shares of world trade.

It is possible that GATT is price discriminating, and allowing otherwise non-joiners to receive the benefits at a reduced cost. The contracting parties may be better off getting some trade barrier reductions from these countries than none at all. Of course, GATT should only allow this for countries that would not join at full cost. These are the countries that have low, or borderline, predicted probabilities. The earlier results suggest that the majority of the *de facto* members are not in this category.

The fact that it would be relatively easy for GATT to eliminate the free rider problem, by completely eliminating the *de facto* membership status, suggests that the benefits to the current contracting parties from solving the problem would be less than the costs. The majority of the *de facto* members are relatively small countries that would not contribute much to the budget, and their trade sectors are relatively small. Even complete elimination of their trade barriers would not mean much additional exports for the current full members.

While the benefits to the current members are small, the costs may be substantial. GATT uses a non-weighted voting procedure, and while most of the GATT decisions are made by consensus, rather than by voting, the accession of the *de facto* members would dilute the voting power of the current contracting parties (see GATT 1977). Larger countries that

must contribute a substantial amount of GATT's budget may not be willing to incur a dilution in their voting power to obtain the small benefits from the accession of the *de facto* members. Because GATT relies more heavily on consensus, rather than voting, it potentially makes the cost larger. As new members join, the decision making costs rise as more members must reach the consensus.[8] Even more importantly, votes are only used in GATT to decide issues which cannot be settled through consensus. Since these comprise the most important, most divided, and most contested issues, the value of a vote in GATT may be even larger given that it is used only for major issues.

VIII. Conclusion

The *de facto* members of GATT are in a special situation that allows them to receive the majority of GATT benefits without incurring the full cost of membership. This type of membership is only available to former territories of the contracting parties to GATT. There have been substantial changes in GATT policy toward *de facto* membership, most notably the 1967 change that allows the *de facto* members to

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[8] Buchanan and Tullock (1962) describe this phenomenon in their model of optimal voting rules. They suggest that the decision making costs grow at an increasing rate as the number of members is expanded.

maintain that status indefinitely as long as they adhere to the general intents of GATT. There is evidence, however, that suggests that GATT has not been fully enforcing this policy on the *de facto* members. Their tax revenue as a proportion of international transactions is significantly higher than that of the contracting parties to GATT and is not significantly different from the non-member countries. The vast majority of the current *de facto* members have had that status for over 10 years, and have relatively little incentive to become contracting parties if it is possible for them to continue receiving the benefits of trade barrier reductions without having to incur the full costs of being contracting parties. This problem has been enhanced, if not caused, by the 1967 change in GATT policy that appears to condone the use of *de facto* membership as a form of membership, rather than as a stepping stone in the path of becoming a contracting party.

A special distinction was made between two groups of free riders. The "true free riders" are those that would be willing to bear the full cost of membership in order to keep the benefits. The "induced riders" are those that would opt out of GATT membership if they were forced to pay because they value the benefits below the full cost of membership. Because it is only the true free riders that contribute to the undersupply of services in a free rider situation, this distinction is an important one to make. A logistic regression model was used to obtain predicted probabilities

for the *de facto* members. By summing the predicted probabilities, it was estimated that approximately 20 of the 28 *de facto* members would join if all were forced with exclusion. Thus, this technique provides an empirical estimate of the extent of the true free rider problem in GATT.

While it would be relatively simple for GATT to solve the free rider problem, there may be reasons why it may not be beneficial to the contracting parties to do so. Because the *de facto* member countries are relatively small players in the international trade arena, their budget contributions would be small. Similarly, the gains to the contracting parties from getting further trade barrier reductions are also small. The costs of solving the problem, however, may be substantial for the GATT members because GATT uses a non-weighted voting procedure. Upon joining, a small *de facto* member such as Seychelles would be given a vote equal to the vote of a larger country such as the United States. The current contracting parties may not be willing to suffer the dilution in their voting power in order to obtain the small amount of benefits from getting the *de facto* members to become full members.

Given that smaller countries provide smaller benefits to the current members when they join, and that current members will suffer a larger dilution in voting power under a non-weighted voting scheme, it may be more beneficial for current members of international organizations that use non-weighted voting procedures to allow smaller countries to free ride. In

this manner they can obtain some benefits from the smaller countries without the loss in voting power. This more general implication, that free riding should be more prevalent among international organizations that use non-weighted voting procedures, is not directly tested here, but is an avenue for further research in the field of international political economy. It is, however, supported by this analysis of the *de facto* members of GATT.

CHAPTER 5

THE STABILITY OF INTERNATIONAL COALITIONS IN UNITED NATIONS VOTING FROM 1946 TO 1973

I. Introduction

This chapter analyses the stability of international voting coalitions in the U.N. General Assembly from 1946 to 1973.[1] This issue is important for two reasons. First, if voting blocs are unstable, issues which are passed initially by the General Assembly may later be overturned or underfinanced. Given the fact that many people feel that the U.N. fails to achieve its objectives, it is a logical question to ask if instability in voting coalitions is the source of this failure. The second reason why the issue is important is on theoretical grounds. That is, the question of stability in democratic decision making is a much debated topic in public choice analysis. The United Nations provides a new and interesting place to gain insights into the actual stability

[1] The ideas in this chapter are developed in Holcombe and Sobel (forthcoming).

of democratic voting. The following sections will provide background material on theoretical issue of stability, its implications for the U.N., and empirical evidence from the actual roll-call votes in the General Assembly with which to assess the stability of these international voting coalitions.

II. Stability in Democratic Decision Making

One of the more significant theoretical issues in public choice over the past two decades has been the stability of outcomes under democratic decision-making. Long before public choice became a recognized subdiscipline, Arrow (1951) popularized the idea that there may be no unique stable outcome under majority rule. However, Black (1958) put the problem of cyclical majorities in the context of the median voter model,[2] and stable outcomes were presumed to be the normal state of affairs in democratic decision-making though the middle 1970s, following Black's reasoning.[3] Serious questions about stability arose when McKelvey (1976)

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[2] The most popular presentation of the median voter model has been Downs (1957), but see Bowen (1943) for a much earlier presentation of the concept, presented essentially as the model is understood today.

[3] Black, of course, recognized the problem of cycles and identified when they might occur, but the presumption was that occurrences would be rare. See Tullock (1967) for a demonstration of stability under majority rule in this framework, which uses the same general principles as Plott (1967).

illustrated that when extended to more than one dimension, the median voter model had no unique or stable outcome. Following McKelvey's line of reasoning, Riker (1980) questioned the notion of equilibrium in political institutions, but Tullock (1982) observed that political outcomes appear to be more stable than market outcomes.

The issue of stability continues to be debated, and there appears to be no clear theoretical resolution to the issue. In theory, if one outcome is more efficient than the alternatives, and if transactions costs are low, the Coase theorem might apply to produce the efficient allocation as a stable outcome.[4] However, the existence of transactions costs sufficient to inhibit political exchange ultimately comes down to an empirical issue, outside the bounds of theoretical resolution. Many political issues are purely distributional, in which case there is no optimal outcome analogous to the competitive market equilibrium, so cycles could, in theory, persist endlessly.[5] In this case, many writers have argued the institutional structure within which political decisions are made structures the political decision-making process in such a way as to produce a unique and stable (but not

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[4] See Koford (1982) for a model in which a market develops to facilitate efficient exchange in a legislature. Holcombe (1985, Ch. 9) considers the Coase theorem as applied to political exchange in more detail.

[5] This is not necessarily bad if there is no option that dominates any other from an efficiency standpoint. See Buchanan (1954), who argues that cycles in this context give every faction a turn at political control.

necessarily efficient) outcome.[6] Again, whether these institutions actually do provide enough structure to create a stable outcome comes down to an empirical question.[7]

The stability of the voting outcomes in the United Nations General Assembly is also important in its own right. Many people have pointed to the U.N.'s apparent inability to achieve their goals, and a lack of stability could be a reason for this failure. With instability, a policy that is favored under majority rule in one instance may be rejected, overturned, or insufficiently financed in a following vote. Thus, an observed failure may be due to a lack of stable support for a policy across votes. The finding of stable voting coalitions, however, would suggest that the U.N.'s failures are due to factors other than their institutional voting structure.

This chapter deals with this issue empirically by examining the stability of international coalitions in United Nations voting decisions from 1946 to 1973. The United

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[6] See, for examples, Weingast, Shepsle, and Johnsen (1981) and Holcombe (1985). Riker's (1962) concept of a minimum winning coalition might also promote stability, if the minimum winning coalition proved to be stable. Holcombe (1986) argues that a stable coalition would encompass all participants, while Lee (1989) argues that the minimum winning coalition is more likely. In either case, a stable outcome is produced.

[7] Note that Tullock (1982) concludes that the empirical question has already been answered, and that there is more stability in the public sector than in the private sector. He then seeks an explanation for the empirical conclusion he has drawn.

Nations provides an interesting case for examining the stability of democratic decision-making when compared to national legislatures for several reasons. First, there are no political parties in the United Nations, so one natural institutional source of stability in legislatures is not present in the United Nations. Second, over the years examined here membership in the United Nations more than doubled. With new members entering the decision-making process, there is the possibility of political realignments as new members decide who to vote with. Finally, another natural source of instability is changes that occur in national ideologies over time that might cause realignment. A good example occurred when Castro took over Cuba.

Despite these factors that might lead to additional instability in the United Nations the data suggest that there was a substantial amount of stability in this particular case. Thus, regardless of the theoretical possibility of instability, in actuality instability did not occur.[8] This finding is interesting in the context of the above-cited

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[8] This conclusion is echoed by Alker and Russett (1965, p. 276), who conclude, "During the postwar period alliance configurations and national objectives within the Assembly were remarkably continuous." As a possible explanation, early in their book (1965, p. 12) they suggest, "In brief, the world environment, not the UN process as such, shapes more of the decisions. From this view the phenomenon of bloc voting might be explained by geopolitically similar interests rather than by caucusing bloc pressures." They look at U.N. voting blocs in detail, but only for the four years 1947, 52, 57, and 61. Our findings using data from all years from 1946 to 1973 support their conclusion that U.N. voting blocs are stable.

literature, and some possible reasons for the apparent stability are discussed in the conclusion. The chapter first discusses the median voter model and the problem of cycles in more detail. Next, the chapter discusses the data to be examined, and then undertakes an empirical investigation based on that data.

III. The Median Voter Model and the Problem of Voting Cycles

One of the most important contributions to public choice theory was the median voter model (Black 1958, Downs 1957, Bowen 1943). This model described how political outcomes would always converge to the preferences of the median, or decisive, voter. On a single issue, if voter's preferences are well single-peaked and the voters can be ordered according to their preferences for an issue, then the median voter model predicts that political competition will produce an outcome that is the platform most favored by the median voter under simple majority rule. For example, suppose there were five member nations in the U.N. and that they were deciding, by simple majority, the level of spending for a particular program. Further suppose that the nations' most preferred levels of spending were: $5 for nation A, $6 for nation B, $7 for nation C, $8 for nation D, and $9 for nation E. If each nation always votes for the level of spending that is closest

to their most preferred level, then the median nations most preferred level of spending, $7, cannot be defeated by any other level in a pair-wise vote. For example, if these nations were voting between the spending levels $7 and $8, $7 would defeat $8 because nations A, B, and C would vote for $7, while only nations D and E would vote for $8.

This model has some straightforward implications for the observed correlations of votes between member nations in the U.N. General Assembly. If, for example, the levels of spending to be voted upon were proposed, and pair-wise votes were taken until all but one proposal had been defeated, we would notice that nation B would vote with nation A more than it votes with any other nation. When nation B did deviate from voting with nation A, it would have voted with its other neighbor, nation C. We should never observe nation B voting with nation D but against nation C. In this framework, nations whose votes are highly correlated in one year should also be highly correlated the next year. If a nation does deviate from its previous partner, it should be expected to have voted most closely with another adjacent nation.

The stability of voting outcomes produced by this depiction of the voting process was challenged by McKelvey (1976). He shows how the addition of an another dimension to the voting process can lead to endless cycles where no single proposal can defeat all others. If, for example, the proposals not only included the level of spending, but also

how it would be financed, there may be no stable outcome. Suppose that in the above example that a proposal of $9 in spending financed totally by nation C was paired against nation C's proposal of $8 in spending to be financed by all five nations equally. It is quite possible that nation C's proposal could be defeated and that the non-median spending level would be adopted. The ability to tie a second issue to the first can produce endless cycles where any proposal can be defeated by another. The second issue need not be the method of financing for the program, it could also be the level of spending on another program. In a framework where almost any second issue can be tied to the first, a strong correlation between the votes of adjacent nations on any one dimension need not exist. In fact, when a second issue is introduced, it becomes possible for nation A's votes to be more highly correlated with the votes of nation E than they are with any other nation. If this problem was present in the U.N. General Assembly, a nation would be observed switching voting partners quite frequently and without regard for their ideological closeness on any given issue.

IV. Identifying Voting Blocs in United Nations Roll-Call Voting

The time frame for this study was chosen because of the availability of the data. Newcombe and Allett (1981) have published a typal analysis of roll-call voting in the U.N. General Assembly from the first votes taken in 1943 up through 1973, and the coalition data they develop is used in the analysis that follows. Thus, what coalitions nations voted with were determined by Newcombe and Allett, and this chapter uses those coalitions as data to see how stable U.N. coalitions are. This section explains the nature of the data.

Typal analysis was first developed by McQuitty (1957). It has some distinct advantages over alternative methodologies, such as factor analysis. In typal analysis, each nation is assigned to a single voting bloc, where in factor analysis, a nation may marginally belong to two blocs, or not be assigned to a bloc at all. The typal analysis begins by constructing a table of Pearson correlation coefficients for all pairs of nations based upon their General Assembly roll-call votes in a given annual session.[9] The Pearson correlation coefficient will equal one for a pair of nations if all of their votes during the session are identical, equal zero if their votes are identical half the

[9] Over the period U.N. roll-call votes have averaged around 80 to 100 per year. A history of roll-call voting in the United Nations is given by Marin-Bosch (1987).

time and opposite half the time, and equal minus one if their votes are all opposite. Table 5.1 shows a set of nations, and their hypothetical correlation coefficients for demonstrative purposes.

Table 5.1 -- Hypothetical Pearson Correlation Coefficients

	CANADA	CHINA	CUBA	FIJI	POLAND	USA	USSR
CANADA	1.00						
CHINA	-0.43	1.00					
CUBA	-0.09	0.835	1.00				
FIJI	0.651	-0.21	-0.09	1.00			
POLAND	-0.21	0.675	0.546	-0.51	1.00		
USA	0.924	-0.42	-0.54	0.867	-0.64	1.00	
USSR	-0.62	0.741	0.896	-0.42	0.985	-0.7	1.00

Typal analysis then proceeds to identify the other country that each country votes with most closely. For example, Canada's votes are most closely correlated with the votes of the United States and vice versa. These two nations are thus the beginning of one "primary type" set of nations. Because Fiji's votes are more closely correlated with the votes of the United States than the other nations, they are also considered to be in this primary type. Because no other nations are most highly correlated with the U.S., Canada, or Fiji, this primary type is complete. Continuing in this manner, Poland's votes are most closely correlated with the votes of the Soviet Union, and vice versa. Cuba's votes are

most closely correlated with the Soviet Union also, so they are added to this second primary type. Finally, China is most closely correlated with Cuba, so it too joins this second primary type. Thus, in the data above, there are two primary types, or two sets of nations that may be considered voting blocs. The first is the U.S., Canada, Fiji bloc and the second is the U.S.S.R., Poland, Cuba, China bloc. In the actual data there are many of these primary types in each year. Over the years considered in the sample, there was a maximum of 29 primary types in 1973 and a minimum of 9 primary types in 1954. Each primary type must consist of at least two nations. The maximum number of nations in a single primary type was in 1970 when one primary type had 38 members. There was, however, at least one primary type consisting of only two members in 26 of the 28 years.

Newcombe and Allett then choose a representative nation from each of these primary types. The representative nation is selected based upon the number of nations attached to it and the nation's importance as a world power. So, for example, the United States and the Soviet Union would be chosen to represent their above primary types. A matrix is then formed of the correlation coefficients between all of the representative nations. The procedure describe above is repeated for these representative nations to find out which primary types vote together most closely. For example, if Belgium was the representative nation of another primary type

and it was more closely correlated with the United States than it was with any of the other representative nations, then it and the United States would be considered to belong to the same "secondary type". Over the years considered in their sample, there was a maximum of 9 secondary types in 1960 and a minimum of 2 secondary types in 1950. In 21 of the 28 years in the sample there were between three and five secondary types.

For each year, Newcombe and Allett list the members of each secondary type and give the secondary type a label corresponding to its membership. For example, for the eighth session in 1953, two of the secondary types were:

1. The Latin American Bloc
   Members: Brazil, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Haiti, Honduras, Israel, Nicaragua, Panama, Paraguay, Peru, Turkey, and the United States

2. The Western, Imperial Bloc
   Members: Australia, Belgium, Canada, Colombia, Dominican Republic, France, Luxembourg, Netherlands, New Zealand, South Africa, and the United Kingdom

The first secondary type is labeled the Latin American Bloc because of the high degree of representation of the Latin American countries. However, note that the United States voted more closely with this bloc than with the bloc consisting of the majority of Western Bloc nations. Correspondingly, the Netherlands, who traditionally is a Scandinavian Bloc member, voted more closely in this session

with the Western, Imperial Bloc than it did the Scandinavian Bloc (which was in another secondary type not listed above).

Newcombe and Allett then identify eight distinct voting blocs that persist over time, which they name for the nations most prominent in the bloc's membership. Sometimes blocs are made up of a single secondary type, but often more than one bloc is in a secondary type. The blocs they identify are (1) Soviet bloc, (2) Afro-Asian, (3) Conservative Afro-Asian, (4) French Africa, (5) Latin America, (6) Scandinavia, (7) West, and (8) Imperial. The French African bloc came into existence in 1960 with the admission of those nations to the United Nations. The other blocs continue from the beginning to the end of the sample.

Newcombe and Allett consider these blocs to be arrayed from political left to political right, and if their view is valid, this in itself would lend some stability to voting coalitions, since Black (1958) has shown that if the issue space can be reduced to a single-dimensional continuum over which all voters have single-peaked preferences, majority rule voting will have a stable outcome.[10] Whether a single-dimensional continuum accurately describes the data is something that will be examined below.

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[10] This conclusion follows if voters have single-peaked preferences over the continuum and if they vote their true preferences (rather than, for example, voting strategically). Thus, even if the single-dimensional continuum is shown to be a good representation of the issue space, stability is not guaranteed.

Each nation is then followed through the sample, noting which bloc it was in each year. For example, the United States was in the Western, Scandinavian, and Latin American Bloc in 1950; the Western Bloc in 1951; the Western, Scandinavian, and Imperial Bloc in 1952; the Latin American Bloc in 1953; and the Western, Scandinavian, and Imperial Bloc in 1954. A "base" bloc is then assigned for each country by looking across the entire sample to see which bloc the nation was a member of the most number of times. The base bloc for United States, for example, was the Western Bloc. In years when the country was not in a secondary type that listed its base bloc in the title, it is considered to be in the bloc closest in ideological distance from its own bloc (if the title consists of two or more blocs). The Netherlands, whose base bloc was the Scandinavian Bloc, was considered to be in the Western (not the Imperial) Bloc in 1953. The United States was considered to be in the Western Bloc in 1950, 1951, 1952, and the Latin American Bloc in 1953.

With this data it is relatively simple to see how many times nations deviate from their base bloc, as did the United States in 1953, and how many times they change blocs, as did the United States in 1953 (going to the Latin American Bloc) and in 1954 (returning to the Western Bloc). Assigning numbers to the blocs in ideological order from 1 to 8, it is also possible to see how far away a nation was from its base bloc when it did deviate. In 1953 when the United States

voted with the Latin American Bloc it was two blocs in ideological distance away from its Western base bloc, while the Netherlands, who voted with the Western Bloc in 1953, was only one ideological bloc away from its Scandinavian base bloc.

Newcombe and Allett then identify tracer nations as nations that are representative of their blocs, to follow the voting records of those blocs. Applying their continuum from political left to political right, the voting records of the tracer nations were examined to see which blocs formed coalitions with each other. They considered blocs to be part of a coalition if the tracer nations were in the same secondary type, as described above. These tracer nations are also used as data to examine stability in voting in the United Nations.

The bloc identifications that Newcombe and Allett use will be employed in the following sections to see if the blocs themselves are stable over time, by identifying when nations change blocs. While these blocs tend to have geographic names, note that they are identified by the closeness of voting records of countries in the blocs, not by geographical proximity. For example, in 1954 Iceland, Israel, and Taiwan were three of the nine nations in the Latin American bloc, because their voting records placed them closest to that group of countries. Similarly, Brazil and Colombia found themselves

in the Western, Scandinavian, and Imperial bloc for that year because of their voting records.[11]

The Newcombe and Allett study thus provides data on political coalitions that can be used to analyze stability in voting. While this chapter examines the stability of coalitions in United Nations voting, the data used in identifying coalition members comes from the work of Newcombe and Allett, so the placing of nations into voting blocs was in no way influenced by the present study's objective of identifying the degree of stability in voting institutions.

V. The Stability of Voting Blocs

This section will look at the stability of membership in voting blocs from year to year in U.N. roll-call voting. The first step in the process is to assign each nation to a voting bloc, and this is done by choosing the bloc that the nation most often votes with. Australia, for example, most often votes with bloc 7, the Western bloc, but in two of the twenty-seven years under consideration voted most closely with

[11] Those blocs were combined into one secondary type for 1954, indicating the closeness in voting records of all of the members of those blocs.

another bloc.[12] Although every nation was placed in a bloc, this does not imply that there was any sort of agreement among nations that they would vote together. Nations are placed in blocs solely on the basis of the closeness of their voting records, with no implication that there is an explicit coalition among members of the same bloc.[13]

After assigning each nation with a bloc, it is then possible to see how often the nation is more closely aligned with nations in another bloc rather than its assigned bloc. As described above, Australia is outside of its assigned bloc two out of twenty-seven times, or 7.4 percent of the time. Since the typical nation has not explicitly agreed to join in a coalition with others in its bloc, it is possible that when voting its own preferences a nation might drift from one bloc to another. Thus, using Newcombe and Allett's single-dimensional continuum, a nation still would be close to its bloc if it moved only to an adjacent bloc. For example, when not in its assigned bloc number 7, Australia was either

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[12] In 1958 Australia voted most closely with bloc 8, the Imperial bloc, and in 1959 voted most closely with bloc 6, the Scandinavian bloc. Thus, using Newcombe and Allett's single-dimensional continuum, Australia was only one bloc away from their own bloc in the years that they left their bloc.

[13] Three nations were assigned to one bloc for earlier years and then another bloc in later years. Iran was assigned bloc 2 (Afro-Asian) from 1946 to 1954 and to bloc 5 (Latin American) from 1955 to 1973. Cuba was assigned to bloc 5 from 1946 to 1958 and to bloc 1 (Soviet) from 1959 to 1973. China was assigned to bloc 5 from 1946 to 1948, and to bloc 2 from 1971 to 1973. The data seem to suggest these bloc changes, and in these cases there were internal political changes that would be consistent with a change of bloc.

in bloc 6 or bloc 8, so it was never more than one bloc away from its assigned bloc.

These calculations were made for each nation, and summary statistics are presented in Table 5.2. The first column in Table 5.2 lists the eight voting blocs, with each country assigned to a bloc based on its voting record. The second column in Table 5.2 shows the percentage of times that nations in the bloc voted with the bloc, and the third column in Table 5.2 shows the percentage of times that nations in the bloc voted either with the bloc or with an adjacent bloc. The Table shows that nations usually vote with their bloc, and when they do not, they usually vote with an adjacent bloc.

Table 5.2 -- Percentage of Years in Which Nations Voted with Their Blocs (by bloc)

Bloc	In Bloc	Within 1 of Bloc
Soviet	98.26%	100.00%
Afro-Asian	77.07%	94.51%
Cons/Pro-West Afro-Asian	53.33%	84.95%
French African	68.18%	85.96%
Latin American	73.79%	89.58%
Scandinavian	88.38%	97.35%
Western	89.28%	93.50%
Imperial	87.87%	97.92%

Table 5.2 shows substantial differences among blocs, with the Soviet bloc showing the most consistency in voting. The Soviet bloc is composed of twelve nations, and of those twelve, only two (Albania and Romania) ever voted more closely

with another bloc than the Soviet bloc. Even then, their votes were most closely aligned with the adjacent Afro-Asian bloc. At the other end of the spectrum, only two countries, Portugal and South Africa, are in the imperial bloc.[14] The Western bloc is made up of fourteen nations and the Scandinavian bloc has seven. The nations in all of these blocs voted within one bloc of their assigned bloc well over 90 percent of the time. Even in the least consistent bloc, the Conservative/Pro-West Afro-Asian bloc, which is composed of nine nations, members of the bloc voted with the bloc more than half the time, and within one bloc of their assigned bloc about 85 percent of the time. This suggests a high degree of stability.

If there were a great deal of instability of the type suggested by the cycling literature, then nations would be expected to constantly form realignments. Most nations remain close to their blocs, but a few nations stand out as constantly shifting. Table 5.3 shows the same information as in Table 5.2, but for each individual nation. (The numbers in Table 5.2 were aggregated directly from Table 5.3. as the averages for each bloc across nations) Nations are listed in the first column, followed by the percent of years in their assigned base bloc and the percent of years within one bloc

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[14] This means that they voted with the imperial bloc more than any other. Throughout the years, other nations were classified as part of the imperial bloc in some years, so in any given year the imperial bloc would have more than just two members.

away from their base bloc. The next two columns present additional information about the individual nations. The column furthest to the right gives the number of years for which the nation had voting data,[15] and the remaining column gives the percentage of years that the nation changed from one voting bloc to another. Looking at the individual nations reveals that most nations remain in their bloc or an adjacent bloc most of the time. The Soviet bloc is most remarkable in this regard.

[15] The number of nations in the United Nations increased substantially during the years covered by this data. In 1946, 53 nations registered U.N. roll-call votes, and in 1973, where the data ends, 130 nations voted. The increase in voting nations reflects an increase in U.N. membership, but in some years some member nations did not participate in any roll-call votes. In that case, the nation would not be assigned a bloc in that year, and if in the next year the nation voted its bloc was different from its previous bloc, that was counted as a change in bloc for the year in which the voting resumed.

Table 5.3 -- Percentage of Years in Which Nations Voted with Their Blocs (by nation)

Countries arranged by assigned base bloc (number of bloc members in parenthesis)	Percent of years in base bloc	Percent of years within one of bloc	Percent of years changed blocs	Years in sample
Soviet Bloc (12)				
Albania	91.67%	100.00%	9.09%	12
Bulgaria	100.00%	100.00%	0.00%	17
Byelorussian SSR	100.00%	100.00%	0.00%	27
Congo	100.00%	100.00%	N/A	1
Czechoslovakia	100.00%	100.00%	0.00%	27
Germany, Democratic Rep	100.00%	100.00%	N/A	1
Hungary	100.00%	100.00%	0.00%	17
Mongolia	100.00%	100.00%	0.00%	12
Poland	100.00%	100.00%	0.00%	27
Romania	87.50%	100.00%	13.33%	16
Ukrainian SSR	100.00%	100.00%	0.00%	27
Union of SSR	100.00%	100.00%	0.00%	27
Afro-Asian Bloc (39)				
Afghanistan	96.15%	100.00%	8.00%	26
Algeria	72.73%	100.00%	50.00%	11
Burma	92.00%	96.00%	12.50%	25
Burundi	90.91%	100.00%	10.00%	11
Cambodia	66.67%	86.67%	35.71%	15
Ceylon	92.86%	92.86%	15.38%	14
Congo--Brazzaville	54.55%	63.64%	50.00%	11
Egypt	87.50%	100.00%	21.74%	24
Equatorial Guinea	80.00%	100.00%	0.00%	5
Ethiopia	59.26%	88.89%	38.46%	27
Ghana	81.25%	93.75%	20.00%	16
Guinea	78.57%	100.00%	23.08%	14
India	85.19%	96.30%	23.08%	27
Indonesia	77.27%	100.00%	19.05%	22

Table 5.3 -- Continued

Countries arranged by assigned base bloc (number of bloc members in parenthesis)	Percent of years in base bloc	Percent of years within one of bloc	Percent of years changed blocs	Years in sample
Afro-Asian Bloc - Continued				
Iraq	74.07%	100.00%	30.77%	27
Kenya	88.89%	100.00%	12.50%	9
Kuwait	70.00%	90.00%	33.33%	10
Mali	69.23%	100.00%	50.00%	13
Mauritania	58.33%	83.33%	54.55%	12
Morocco	70.59%	100.00%	43.75%	17
Nepal	70.59%	88.24%	43.75%	17
Nigeria	61.54%	92.31%	58.33%	13
Pakistan	53.85%	80.77%	56.00%	26
Qatar	66.67%	100.00%	50.00%	3
Saudi Arabia	74.07%	92.59%	34.62%	27
Senegal	69.23%	76.92%	33.33%	13
Sierra Leone	66.67%	75.00%	63.64%	12
Singapore	77.78%	100.00%	12.50%	9
Somalia	76.92%	92.31%	25.00%	13
South Yemen	83.33%	100.00%	20.00%	6
Sudan	88.24%	100.00%	18.75%	17
Syria	87.50%	100.00%	21.74%	24
Tanzania	90.91%	100.00%	10.00%	11
Tunisia	64.71%	100.00%	25.00%	17
Uganda	100.00%	100.00%	0.00%	11
United Arab Rep.	80.00%	100.00%	25.00%	5
Yemen	92.31%	100.00%	12.00%	26
Yugoslavia	66.67%	96.30%	38.46%	27
Zambia	88.89%	100.00%	12.50%	9

Table 5.3 -- Continued

Countries arranged by assigned base bloc (number of bloc members in parenthesis)	Percent of years in base bloc	Percent of years within one of bloc	Percent of years changed blocs	Years in sample
Conservative Afro-Asian/Pro-West Afro-Asian Bloc (9)				
Bahrain	66.67%	100.00%	100.00%	3
Cyprus	30.77%	69.23%	58.33%	13
Jordan	52.94%	100.00%	56.25%	17
Laos	47.06%	82.35%	68.75%	17
Lebanon	62.96%	96.30%	42.31%	27
Libya	52.94%	100.00%	68.75%	17
Oman	50.00%	100.00%	100.00%	2
Sri Lanka	66.67%	66.67%	50.00%	3
Zaire	50.00%	50.00%	100.00%	2
French African Bloc (14)				
Botswana	40.00%	60.00%	50.00%	5
Cameroon (UR of)	46.15%	69.23%	66.67%	13
Central African Republic	75.00%	100.00%	45.45%	12
Chad	61.54%	84.62%	50.00%	13
Congo--Leopoldville	72.73%	90.91%	60.00%	11
Dahomey	92.31%	100.00%	8.33%	13
Gabon	76.92%	100.00%	41.67%	13
Guyana	37.50%	62.50%	42.86%	8
Ivory Coast	76.92%	100.00%	25.00%	13
Madagascar	76.92%	84.62%	25.00%	13
Niger	76.92%	84.62%	16.67%	13
Rwanda	60.00%	90.00%	77.78%	10
Togo	76.92%	84.62%	33.33%	13
Upper Volta	84.62%	92.31%	25.00%	13

Table 5.3 -- Continued

Countries arranged by assigned base bloc (number of bloc members in parenthesis)	Percent of years in base bloc	Percent of years within one of bloc	Percent of years changed blocs	Years in sample
Latin American Bloc (39)				
Argentina	85.19%	96.30%	23.08%	27
Barbados	85.71%	100.00%	33.33%	7
Bhutan	50.00%	100.00%	100.00%	2
Bolivia	74.07%	85.19%	42.31%	27
Brazil	96.30%	100.00%	7.69%	27
Chile	81.48%	88.89%	23.08%	27
Colombia	92.59%	92.59%	7.69%	27
Costa Rica	88.46%	92.31%	24.00%	26
Dominican Republic	85.19%	96.30%	30.77%	27
Ecuador	81.48%	88.89%	34.62%	27
El Salvador	80.77%	88.46%	40.00%	26
Fiji	66.67%	100.00%	50.00%	3
Gambia, The	66.67%	66.67%	50.00%	3
Guatemala	74.07%	81.48%	34.62%	27
Haiti	74.07%	85.19%	50.00%	27
Honduras	85.19%	92.59%	30.77%	27
Israel	62.50%	95.83%	39.13%	24
Jamaica	63.64%	72.73%	70.00%	11
Khmer Republic	50.00%	100.00%	100.00%	2
Lesotho	75.00%	100.00%	57.14%	8
Liberia	62.96%	77.78%	50.00%	27
Malawi	77.78%	100.00%	12.50%	9
Malaysia	56.25%	75.00%	46.67%	16
Maldives	50.00%	83.33%	60.00%	6
Mauritius	75.00%	75.00%	0.00%	4
Mexico	66.67%	85.19%	53.85%	27
Nicaragua	88.89%	100.00%	19.23%	27
Panama	96.30%	100.00%	7.69%	27
Paraguay	88.46%	96.15%	12.00%	26
Peru	84.00%	96.00%	29.17%	25

Table 5.3 -- Continued

Countries arranged by assigned base bloc (number of bloc members in parenthesis)	Percent of years in base bloc	Percent of years within one of bloc	Percent of years changed blocs	Years in sample
Latin American Bloc - Continued				
Philippines	62.96%	74.07%	50.00%	27
Spain	52.94%	76.47%	68.75%	17
Swaziland	83.33%	100.00%	40.00%	6
Taiwan	80.00%	95.00%	36.84%	20
Thailand	60.00%	84.00%	50.00%	25
Trinidad and Tobago	54.55%	81.82%	50.00%	11
Turkey	59.26%	88.89%	65.38%	27
Uruguay	77.78%	88.89%	26.92%	27
Venezuela	81.48%	92.59%	30.77%	27
Scandinavian Bloc (7)				
Denmark	100.00%	100.00%	0.00%	27
Finland	94.12%	100.00%	12.50%	17
Greece	55.56%	81.48%	61.54%	27
Iceland	80.77%	100.00%	16.00%	26
Ireland	88.24%	100.00%	25.00%	17
Norway	100.00%	100.00%	0.00%	26
Sweden	100.00%	100.00%	0.00%	27
Western Bloc (14)				
Australia	88.89%	96.30%	19.23%	27
Austria	82.35%	88.24%	31.25%	17
Belgium	85.19%	96.30%	23.08%	27
Canada	100.00%	100.00%	0.00%	27
France	81.48%	92.59%	26.92%	27
Germany, Federal Rep	100.00%	100.00%	N/A	1
Italy	94.12%	94.12%	6.25%	17
Japan	81.25%	93.75%	33.33%	16
Luxembourg	88.89%	96.30%	19.23%	27

Table 5.3 -- Continued

Countries arranged by assigned base bloc (number of bloc members in parenthesis)	Percent of years in base bloc	Percent of years within one of bloc	Percent of years changed blocs	Years in sample
Western Bloc - Continued				
Malta	62.50%	62.50%	28.57%	8
Netherlands	96.30%	96.30%	7.69%	27
New Zealand	100.00%	100.00%	0.00%	27
United Kingdom	96.30%	100.00%	7.69%	27
United States of America	92.59%	92.59%	15.38%	27
Imperial Bloc (2)				
Portugal	88.24%	100.00%	25.00%	17
South Africa	87.50%	95.83%	17.39%	24
Other Countries (3)				
Iran	70.37%	81.48%	46.15%	27
Iran assigned to bloc 2 from 1946 to 1954, bloc 5 from 1955 to 1973				
Cuba	84.62%	96.15%	28.00%	26
Cuba assigned to bloc 5 from 1946 to 1958, bloc 1 from 1959 to 1973				
China	83.33%	100.00%	0.00%	6
China assigned to bloc 5 from 1946 to 1948, bloc 2 from 1971 to 1973				

Do these findings indicate stability or instability? There is not a test statistic that can be used to say that a percentage above a certain level indicates instability, so the reader will have to judge.[16] It is worth mentioning that some of the changes listed undoubtedly reflect small changes as nations switch back between two voting blocs in ideologically close proximity. Without making any judgment on the issue, however, the change was listed. All things considered, memberships in the blocs appear relatively stable.

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[16] One can, however, come up with critical values to reject the hypothesis that nations are randomly assigned to one of the eight voting blocs in each year (independently) based upon the Multinomial Probability Distribution. For a nation in the U.N. for the full sample of years, one may reject the null hypothesis of random yearly bloc assignment at the 1% level if they were in their base bloc more than 28.57 percent of the time, and at the 5% level if they were in their base bloc 21.43 percent of the time. For nations assigned to either bloc 1 (Soviet) or 8 (Imperial), one may reject the null hypothesis of random yearly bloc assignment at the 1% level if they were within one of their base bloc more than 42.86 percent of the time, and at the 5% level if they were in their base bloc 39.29 percent of the time. For nations assigned to blocs 2 through 7 (where deviations can occur on either side), one may reject the null hypothesis of random yearly bloc assignment at the 1% level if they were within one of their base bloc more than 57.14 percent of the time, and at the 5% level if they were in their base bloc 50.00 percent of the time. Therefore, the hypothesis that a nation moves randomly from bloc to bloc can be rejected for every nation in the United Nations over this period.

VI. The Probability of Changing Blocs

If voting blocs are stable, and if a single-dimensional continuum represents the issue space, then a nation's movement from one bloc to another should be proportional to the distance that the nation is away from the nation's assigned bloc. For example, a nation in its own bloc would not be expected to change voting blocs, whereas a nation two blocs away from its own bloc would be expected to change by two units, putting that nation back into its own bloc. If blocs are not stable coalitions, then how far a nation is away from its own bloc should not affect the likelihood of its changing blocs.

This idea can be examined empirically by looking at nations' changes among blocs as a function of how far away from their own bloc they are. Since the voting blocs were numbered (by Newcombe and Allett) from 1 to 8, for each year the distance a nation moved from its voting bloc can be calculated by subtracting the nation's bloc last year from the nation's bloc this year. Thus, a nation moving from voting bloc 2 to voting bloc 5 would have a CHANGE of 3, whereas a nation moving from bloc 5 to bloc 2 would have a CHANGE OF -3. Both positive and negative numbers are used, to indicate the direction of change. Another variable, OFF, can be defined as the distance a nation is from its own bloc. Thus, a nation whose own bloc is 5 but voted with bloc 2 last year would have

a value of 3 for OFF. If nations tend to return to their blocs, then there should be a positive relationship between CHANGE and OFF.

A regression was run using all 2132 observations in the data set, yielding

$$\underset{}{\text{CHANGE}} = \underset{(3.43)}{-0.054} + \underset{(33.58)}{0.733}\ \text{OFF} + \epsilon. \qquad (1)$$

$R^2 = 0.346$ (t-statistics in parentheses)

The results in equation (1) show that there is a strong positive relationship between OFF and CHANGE, and that for every unit away from its own coalition a nation is, it tends to move 73 percent of that distance back the next period. In most cases, the values for both CHANGE and OFF are zero, since a nation tends to remain in its coalition. Using only the 356 observations in which OFF did not equal zero produces

$$\underset{}{\text{CHANGE}} = \underset{(1.24)}{-0.069} + \underset{(23.08)}{0.735}\ \text{OFF} + \epsilon. \qquad (2)$$

$R^2 = 0.601$ (t-statistics in parentheses)

The results in equation (2) are similar to those in equation (1), again showing that when nations vote outside of their own bloc in one year, they move, on average, almost three-quarters of the way back the next year. Once again, this suggests that voting blocs are stable in the same way that economic equilibria are stable. When a nation is away from its equilibrium bloc, it tends to move back.

This same data can be examined using a probit model and making the variables binary depending upon whether a nation

changes blocs, and depending upon whether a nation is in its own voting bloc. BCHANGE is assigned a value of 0 if the nation does not change blocs and 1 if it does, while BOFF is assigned a value of 1 if a nation is away from its bloc and 0 if a nation is in its bloc. This yields

$$\underset{(29.08)\ (23.19)}{\text{BCHANGE} = -1.07 + 2.00\ \text{BOFF}} + \epsilon \qquad (3)$$

Thus, there is a close correlation between whether a nation is away from its bloc and whether it changes blocs.

If one uses the data in equation (3) to look at the probability of changing voting blocs, the probability of changing blocs if one is currently in one's bloc is 0.14, whereas the probability of changing blocs if one is not in one's bloc is 0.82. This is further evidence of stability, especially in light of the fact that nations vote with their own blocs 83 percent of the time. Most nations vote with their blocs, and when they do, they are far less likely to change blocs than when they vote outside their blocs.

VII. Realignments of Coalitions

As noted above, Newcombe and Allett identify eight relatively permanent coalitions in their data (which in itself suggests stable membership in the coalitions), and select a tracer nation for each of the eight voting blocs. One of the blocs is French Africa, which came into existence in 1960, so

prior to 1960 there were only seven blocs.[17] Newcombe and Allett align these nations in a single-dimensional ideological continuum and look to see when the tracer nations find themselves in the same secondary types. In this way, it is possible to see if the nations jump over other nations in the ideological spectrum to form coalitions with nations that are spatially distant on the spectrum.

The single-dimensional continuum developed by Newcombe and Allett holds up well over the 27 years for which it is possible to follow the nations.[18] For example, it is most common for the Soviet bloc (1) to be aligned with the Afro-Asian bloc (2), but it is never aligned with the Latin American bloc (5). The Latin American bloc is more often aligned with the Scandinavian bloc (6), and sometimes with the Western bloc (7). By lining up the blocs in this way, one can identify cases in which alignments of blocs cross ideological

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[17] The reason, of course, is that the core nations of this bloc were French colonies before this time.

[18] A series of papers by Poole and Rosenthal (1985, 1987, 1991) suggest that U.S. congressional voting can be reduced to a single major dimension, with a second less-important dimension appearing occasionally. Their methodology is discussed in their 1985 paper, and their 1991 paper examines data on congressional roll-call voting sine 1789. Koford (1990) also concludes that in multidimensional models, a single dimension tends to dominate. Holloway (1990) looks at data on U.N. voting over ten-year intervals, and finds that coalitions can be defined over a two-dimensional East-West, North-South issue space, but that the East-West dimension is dominant in U.N. voting. Newcombe, Ross, and Newcombe (1970) arrive at the same general conclusions looking at annual data from 1946 to 1963.

lines. This would happen, for example, if blocs 1, 2, and 4 were aligned, but 3 was not (or was aligned with bloc 5).

Table 5.4 -- Realignments of Major Voting Blocs in the United Nations General Assembly

Year	Number of Realignments
1947	1
1948	1
1949	0
1950	0
1951	0
1952	0
1953	1
1954	1
1955	0
1956	0
1957	0
1958	0
1959	1
1960	1
1961	0
1962	0
1963	0
1965*	0
1966	1
1967	1
1968	1
1969	1
1970	0
1971	0
1972	0
1973	0

*No General Assembly roll-call votes were taken in 1964. The zero for 1965 signifies no realignments from 1963 to 1965.

The column titled Number of Realignments in Table 5.4 shows the number of realignments in Newcombe and Allett's data. In most years, no realignments take place, and in all cases, a realignment in one year is followed by the reciprocal

realignment in the next year. For example, in 1947 the Conservative Afro-Asian bloc jumped over its neighboring Latin American bloc to align itself with the Scandinavian bloc. This is the realignment listed in Table 5.2. Then in 1948 the Conservative Afro-Asian bloc jumped back into the original order to align itself with the Afro-Asian bloc. This was the only realignment in 1948, and is also noted in the Table.

In no year was there more than one realignment. Furthermore, every realignment in one year is followed by the reciprocal realignment in the following year to restore the former order of alignment. Thus, it appears that the alignment of voting blocs in the United Nations is consistent with a single-dimensional continuum, and that the order of blocs along that continuum is very stable. This provides additional evidence on the stability of voting blocs in the United Nations over the years from 1947 to 1973.

VIII. Conclusion

This chapter has examined roll-call voting data in the United Nations from 1947 to 1973 for evidence of stability in United Nations voting blocs. The evidence indicates that voting blocs were very stable over the whole period. The way in which the data were analyzed surely biases the results in favor of finding instability among voting blocs. It places

every nation in a voting bloc even though there is no evidence that any type of coalition, bargaining, or strategic voting is occurring. Any changes in voting alliances simply due to nations' sincere interpretations of their interests on the issues would be counted as instability the way that the data were analyzed.[19] Despite the methodological bias toward finding instability, the evidence is that voting bloc membership is relatively stable throughout the period, and that realignment among voting blocs almost never appears.

United Nations voting should, if anything, be less stable than voting in legislatures, so this provides some suggestion that legislative voting in general exhibits stability.[20] There are no political parties in United Nations voting as there are in national legislatures, and political parties impose stability through party alignments. Furthermore, the number of nations in the United Nations more than doubled over the period of the study, and the addition of new members provides an opportunity for bargaining for alignments that

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[19] Hagan (1989) finds that domestic political regimes have substantial effects over U.N. voting, which is not surprising, but would not be a sign of cycling in U.N. voting patterns. Nevertheless, when changes in domestic politics caused coalition changes, that was cited as potential evidence of instability in our methodology. Thus, the methodology used in this chapter errs on the side of finding instability.

[20] Evidence presented by Poole and Rosenthal (1991) and Koford (1990) suggests that voting in the U.S. Congress can be depicted in a stable one-dimensional model, but the question remains as to whether voting was stable in this particular case or whether legislative voting in general will exhibit stability.

could produce instability. Finally, nations do change their own ideological preferences, as for example when Cuba became a part of the Soviet bloc after Castro began ruling the country. Despite these opportunities for instability, there is relatively little change in voting bloc membership from year to year, and there is almost no realignment of voting blocs themselves.

This empirical evidence of stability in no way damages the theoretical models demonstrating that under general circumstances democratic decision-making will not be stable. It does raise the question that Tullock (1982) dealt with regarding why so much stability is observed. This is particularly the case with stability in United Nations voting where there are fewer institutional constraints to impose stability on the decision-making process.

This evidence also suggests that it is not unstable support for U.N. policies which leads to their failure. If it is not the voting mechanism in the U.N. which leads to the failures, it must be either that the types of policies enacted are inherently flawed or that the failure comes from the way in which the policies are carried out. This suggests that future research geared toward explaining U.N. failure be centered around discovering the incentives for nations to enact certain types of policies and the incentive structures facing the U.N. bureaucrats who carry out these policies.

CHAPTER 6

EXCHANGE RATE EVIDENCE ON THE EFFECTIVENESS OF U.N. POLICY

I. Introduction

This chapter analyzes the effectiveness of United Nations interventions through their impact on exchange rates. The general implication is that if a specific U.N. intervention, such as the establishment of peacekeeping forces, increases the economic or political stability of the country, then the country's currency should appreciate. On the other hand, if a specific U.N. intervention, such as the imposition of economic sanctions, destabilizes the country, then the country's currency should depreciate.[1] While there may be many different ways to measure policy effectiveness, this chapter measures effectiveness in terms of movements in the exchange rate. More precisely, it is the evaluation of the likely impact of the intervention by speculators in the

[1] Kaempfer and Moffett (1988) also propose this hypothesis, and present graphical evidence about the impact of the sanctions imposed upon South Africa in 1986 on the exchange rate.

foreign exchange market combined with actual economic and political effects. In this framework, the magnitude of the exchange rate movement is used as a measure of the effectiveness of the policy. Also, whether the exchange rate movement is temporary or permanent yields insight into the long-run effectiveness of the policy. While no measure can fully capture the effects of an international intervention, movements in the exchange rate will at least partially reflect the political and economic consequences of the intervention, and for this reason it provides an interesting way to measure policy effectiveness. This chapter uses transfer function models, fit to exchange rate data from the International Monetary Fund, to isolate the impact of specific U.N. interventions. The estimates are then used to derive the impulse response of the country's exchange rate to each of the interventions.

While the U.N. has intervened in many countries, an analysis of exchange rate impacts requires that the country have an independently floating exchange rate during the period of the intervention.[2] Two countries that both fit the sample criterion, and that have diverse U.N. interventions are Lebanon and South Africa. Lebanon is a case where the U.N.

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[2] An interesting further avenue for research with this methodology would be to use black market exchange rates for the other countries. The reliableness of this type of data may, however, be somewhat questionable and the lack of well established legal markets may weaken (or eliminate) foreign speculative holdings of the country's currency.

attempted to stabilize the country through peacekeeping forces. South Africa is a case where the U.N. attempted to destabilize the country through the imposition of economic sanctions. In addition to providing information on the effectiveness of the U.N. interventions in these two countries, certain public choice implications about the effectiveness of international interventions will be compared to the empirical results.

II. Public Choice and the Effectiveness of U.N. Interventions

Public choice theory offers a few testable implications about the effectiveness of these types of international interventions. If peace is an international public good (see Mendez, 1992) and provides positive externalities to all nations, then national and regional peacekeeping forces should not provide the efficient level of peace. That is, they will undersupply international peace by not devoting enough resources to its provision. In the context of Lebanon, the implication is that a regional force, such as the one sent in by the Arab League, would not have provided as much stabilization as a U.N. force. Under this theory, the U.N. would presumably take into account at least some of the positive externalities accruing to nations outside of the Arab

world. This theory would predict that the Arab League's peacekeeping intervention in Lebanon should have been less effective than similar U.N. interventions.

Another public choice implication stems from the fact that Lebanon did not bear the full cost of the international peacekeeping forces. Because the cost of maintaining the peacekeeping forces is shared among the members of the U.N. with Lebanon bearing only 0.01 percent of the total cost, they should have demanded more resources than would be efficient.[3] That is, they should have favored the retention of the forces for a period longer than would be efficient. As long as Lebanon's requests for maintaining the international peacekeeping forces were somewhat satisfied by the Security Council, the peacekeeping forces should have been expected to remain for a period longer than would be efficient. It is worth noting, however, that the cost of the forces is born by the other nations, especially those on the Security Council who cumulatively bear over 70 percent of the cost, and they have an incentive to retire the forces closer to the efficient time. While the Security Council is in control of the timing of troop withdrawal, there is an asymmetric information problem because Lebanon probably has a better idea of the actual benefits from maintaining the forces, and has an incentive to over-represent their valuation of these forces to

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[3] This is very similar to a common pool resource problem with the exception that the Security Council is able to deny access and restrict the consumption of peacekeeping forces.

the Security Council. For these reasons, one would expect that the peacekeeping forces would remain for a period longer than would be efficient. Thus, the prediction from this theory is that nearly all of the beneficial effects of the peacekeeping forces would have been felt by the time of their removal.

There are additional implications in regard to Security Council Resolutions. The Security Council regularly passed resolutions regarding the situations in Lebanon and South Africa. Frey and Gygi (1991) propose that the U.N. delegates will support rules which allow them to express their views and project themselves in order to increase their prestige. In this view, resolutions are merely ornamental attempts to project delegate views to gain more national prestige. There also exists a credibility problem with the repeated resolutions. Over the sample period used here, the U.N. Security Council adopted 14 separate resolutions calling for a cease-fire and/or an immediate foreign troop withdrawal from Lebanon.[4] Of these, only 4 were accompanied by any actual intervention (the sending of peacekeeping forces). Thus, taking into account the effects caused by the actual intervention, one would expect that the resolutions themselves would have relatively little impact on the situation in

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[4] Data on the resolutions was collected from a three volume series entitled *United Nations Resolutions on Palestine and the Arab-Israel Conflict* (1988), as well as United Nations (1992).

Lebanon. South Africa, as well as having economic sanctions imposed, had 19 condemnations by the U.N. Security Council and had a resolution passed which declared the 1984 South African elections, and new constitution, null and void. Taking into account the actual sanctions, at least the repeated resolutions condemning South Africa are also expected to be of little significance, for the same reason.

The theoretical expectation about the impact of the sanctions depends upon their objective. Douglas Anglin (1987) discusses five possible objectives of the imposition of economic sanctions. First, countries may impose sanctions as merely a form of protest. In this case they represent only symbolic significance and have no real effect. An alternative objective is deterrence. That is, they represent a credible threat or a signal of what may happen if the country does not adhere to the social norms. The third possible objective for the imposition of economic sanctions is damage control. That is, a country may impose only the bare minimum sanctions necessary to avoid political criticism. The final two possible objectives are reform and coercion. In these cases, sanctions represent a real attempt to put pressure on a government so as to achieve a policy change. Here, the sanctions are usually broad sweeping and severe. Thus, the effectiveness of the sanctions may be determined by which objective is pursued by the relevant political authority.

In probably the most intriguing theoretical analysis of economic sanctions, Kaempfer and Lowenberg (1988, 1992) use a public choice approach to show how special interests influence the sanctioning process in order to gain personal benefits. In their model, the sanctions imposed are not necessarily the ones that maximize the harm to the target country, but rather the ones that will achieve special interest group benefits while not imposing too high of costs on the other competing political interests in the sanctioning country. Because often the sanctions that impose the harshest effects on the target country also impose high costs on the sanctioning country, they will be avoided. They also show that the incentive for other countries to supply exports or consume the imports of the target country increases directly with the severity of the sanctions, and that there is a bias toward adopting restrictions on the target country's exports rather than the target country's imports. This public choice approach suggests that the international sanctions may only have minor economic and political effects on South Africa.[5]

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[5] See Kaempfer, Lehman, and Lowenberg (1987a, 1987b), Kaempfer and Lowenberg (1986, 1989), and Kaempfer and Moffett (1988) for applications of this public choice approach specifically to the South African case.

III. Exchange Rates and the Use of Intervention Models

There are many alternative ways to measure the effectiveness of U.N. interventions. Most studies construct an index of policy effectiveness based upon the author's subjective judgements about the political and economic changes that are associated with the interventions.[6] There are several problems with this type of methodology. First, the index that is constructed often only provides a few subjective categories of effectiveness. This limits the ability to compare the relative magnitudes of effectiveness both within and between categories. A second problem is that the effectiveness measures can vary widely across studies. Not only can a given intervention be given different rankings by different authors, but also it becomes hard to compare a mildly effective ranking of one author with a relatively effective ranking of another author. While the use of exchange rates also relies on subjective valuations of political and economic responses to the intervention, it overcomes many of these comparability problems. Just like the other indexes, however, it may not fully reflect the costs imposed upon, or benefits enjoyed by, the nation. This is perhaps less of a problem in measuring the impact of peacekeeping forces than it is in measuring the impact of

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[6] Daoudi and Dajani (1983) and Hufbauer and Schott (1983) are examples of this type of technique.

economic sanctions. Because of the divergence between the interests of the target country and the goals of the sanctions, the target country will attempt to offset the impact of the policy, often by taking costly actions. In this case the exchange rate will capture the net effects of the policy. In the case of peacekeeping forces, the goals of the policy and the interests of the host country should coincide.

A country's exchange rate is an accumulation of the subjective evaluations of all participants in the foreign exchange market. Thus it too is a subjective criterion of policy effectiveness but it relies on the subjective evaluation of many market participants. If a specific U.N. intervention, such as the establishment of peacekeeping forces, increases the economic or political stability of the country, then the country's currency should appreciate. On the other hand, if a specific U.N. intervention, such as the imposition of economic sanctions, destabilizes the country economically or politically, then the country's currency should depreciate. These changes occur because of changes in capital flows, trade flows, government policy, and most importantly because of speculative forces.[7] In this

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[7] Kaempfer and Lowenberg (1989) provide theoretical justification for the observed bias toward banning only imports from South Africa, rather than banning exports also, in the actual sanctions that were adopted. Because the primary impact is on South African exports, this leads to a prediction of a depreciation in the Rand on trade grounds also. Kaempfer and Moffett (1988) also discuss in detail the channels through which sanctions would be expected to depreciate the target country's currency.

framework, movements in the exchange rate provide a measure of the anticipated effects of, and national responses to, the intervention. The exchange rate response is immediate and it provides a quantifiable measure of the effectiveness of the intervention. It allows for a continuum of policy effectiveness that can be used readily for cross country, and cross intervention comparisons. Of course, the correct measure is the difference between the actual exchange rate with the intervention and what it would have been without the intervention. Thus, the first step in building the empirical model is to find an underlying model which is a good predictor of the exchange rate.

Theories and empirical studies of exchange rates in international finance are of importance for the specification of the model used to estimate the impact of the interventions because of the necessity to build an underlying prediction model. In general, exchange rates are set by supply and demand forces for countries who have floating or flexible exchange rates. These rates will move to immediately reflect new information and changes in expectations about the future of a country. Many international economists have studied the ability of different models to predict changes in nominal exchange rates. The majority of these studies find that the simple random walk model performs as well as, if not better than, more complicated models that include variables

reflecting prices, money supplies, and interest rates.[8] The random walk model specifies that the exchange rate is equal to last period's exchange rate plus some random error term. Alternatively, the change in the exchange rate from one period to the next is a random error. This random walk model will be adopted as the underlying model for the exchange rate which will be used to predict where it would have been in the absence of the intervention.[9] Thus, in effect, this analysis will attempt to find significant correlations between the residuals from this standard empirical model and the U.N. interventions.

The next step is the incorporation of intervention components into the random walk model. The intervention model requires the use of a transfer function which specifies the

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[8] Meese and Rogoff (1983) is one such study that is frequently cited as providing a foundation for the empirical use of the random walk model in explaining exchange rates. Wolff (1987) and Schinasi and Swamy (1989) also test the random walk model against alternative models with time varying coefficients.

[9] Empirically the random walk model provides as good of, if not better, ex ante prediction of the exchange rate as other more complicated models. It is worth clarifying that the significance of the intervention components in the later estimated model show that some of the exchange rate movements can be explained ex post by the intervention, but this does not imply that this type of model can be used ex ante to get a better prediction of the exchange rate than the random walk model. Thus, the significant findings presented later do not negate the random walk model as the best ex ante predictor of exchange rates.

impact of an intervention on the series of interest.[10] A typical transfer function within the framework of the random walk model for the exchange rate is:

$$\nabla S_t = \nu(B) \cdot I_t + \eta_t \qquad (1)$$

where

$$\nu(B) = \frac{\omega(B)}{\delta(B)} = \frac{\omega_0 + \omega_1 B + \omega_2 B^2 + \cdots + \omega_n B^n}{1 - \delta_1 B - \delta_2 B^2 - \cdots - \delta_m B^m} \qquad (2)$$

Here, ∇S_t is the monthly change in the nominal exchange rate, B is the normal backshift operator which denotes a lag, I_t is a dummy variable taking the value of one in the period of the intervention, and η_t is a random error term.

The transfer function serves as an elaborate series of dummy variables which capture the effect of the intervention. In its simplest form, the transfer function is a single coefficient on a dummy variable which allows for a single change in the period of the intervention. This would be the case where the denominator of the transfer function given in Equation (2) was equal to one and the numerator consisted only of the ω_0 term. More complicated transfer functions allow for multi-period impacts of the intervention. Multi-period impacts may be specified in two ways. First, if an intervention causes a change in the dependent variable in each of the first N periods after the intervention, a series of

[10] See Mills (1990) Chapters 12 and 13 for a good discussion of intervention analysis and transfer function models.

dummy variables can be used as the transfer function to allow for the differing impacts in each of the periods. This would be the case where the transfer function given in Equation (2) had a denominator equal to one and a series of N terms in the numerator. A second way to specify a multi-period impact is to add an autoregressive lag in the transfer function. This is the purpose of the denominator term in Equation (2). This method allows for an intervention to have impacts in subsequent periods which are an exponentially declining function of the first period impact. This method serves much the same purpose of the individual dummy variables except it constrains the subsequent impacts to be exponentially decaying. With this type of transfer function, the full impact of the intervention will be asymptotically approached. Allowing for multi-period impacts can be important for interventions such as peacekeeping forces. Peacekeeping forces are usually introduced in stages with a gradual build-up to the eventual force taking place during the first few months of the operation. This transfer function can also be modified to take into account a delay of b periods in the response of the exchange rate by substituting I_{t-b} for I_t in Equation (1).

By using transfer functions, the impact of U.N. interventions can be estimated. The impact of these interventions can be classified into two broad groups, temporary and permanent. If the impact is temporary,

significant but offsetting changes should be observed in the exchange rate. Thus, for example, the currency could depreciate immediately following the intervention, and then return to its original level in the following months. If the impact is permanent, no offsetting changes should occur and thus the exchange rate will be permanently impacted. Because it is the change in the nominal exchange rate that is the dependent variable, a permanent appreciation corresponds to a transitional positive change or changes in the first differenced model. A temporary appreciation would be modeled in the first differenced series by a positive change followed by a negative and offsetting change.

Whether an intervention causes a temporary or a permanent change in the exchange rate yields insight into the effectiveness of the intervention, as does the estimated magnitude of the impact. Using this type of analysis, the following sections will describe the international interventions in Lebanon and South Africa and provide empirical estimates of the exchange rate impacts of the interventions.

IV. United Nations Interventions in Lebanon

Lebanon provides an interesting case in which to study the impact of different types of U.N. interventions. Between

a civil war, the Arab-Israeli War, and continued Israeli and terrorist attacks, Lebanon has had its share of instability. The U.N. has responded by sending many different forces to stabilize the country, and the U.N. Security Council has issued repeated resolutions demanding immediate withdrawal of foreign troops and/or an immediate cease-fire. Besides the U.N. interventions, the Arab League has also intervened by sending peacekeeping forces.[11] Lebanon is a case where the U.N. has attempted to add stability by intervening with military forces and political demands.

The Effective Fluctuating Free Market Rate of the Lebanese Pound has been in place since November of 1948, and remains the rate for all private transactions.[12] It has been determined by supply and demand forces since 1973 and has exhibited much fluctuation during this period. The sample consists of monthly observations of the U.S. Dollars per Lebanese Pound exchange rate over the period from January 1973

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[11] The Arab League is also known as the League of Arab States. It was created in 1945 and serves the purpose of mediating disputes between the Arab states and has been responsible for coordinating the military, economic, and diplomatic offensive against Israel. Members in 1992 are Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, The Palestine Liberation Org., Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen.

[12] All historical information on exchange rates was taken from the *World Currency Yearbook* by International Currency Analysis, Inc.

to December 1984.[13] Figure 6.1 shows the end-of-period monthly nominal U.S. Dollars per Lebanese Pound exchange rate over the sample period.[14]

[13] During and after 1985, Lebanon experienced monetary instability and rapid inflation. This could have caused changes in the underlying structural equation and thus the sample was restricted to the period before 1985. The International Monetary Fund data does not have a price index for Lebanon which could have been used to produce a real exchange rate series. Because of this, both models were fit using nominal exchange rates. However, the analysis for South Africa was performed using both the real exchange rate and the nominal rate, and it appeared that the results were not significantly affected by the use of the nominal, rather than real, exchange rate.

[14] All exchange rate data is from the International Monetary Fund's *International Financial Statistics* series.

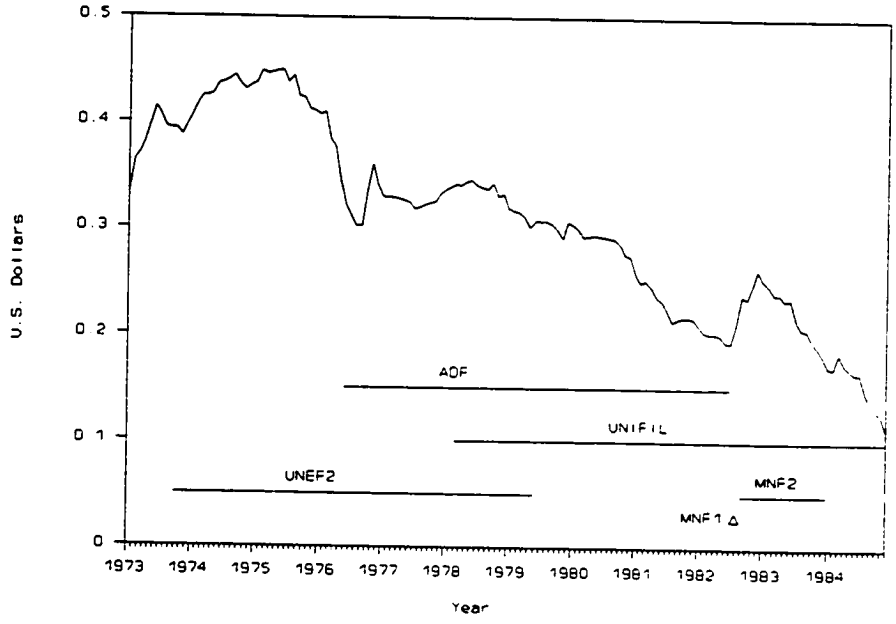

Figure 6.1 - U.S. Dollars per Lebanese Pound, 1973-1985

Figure 6.1 also shows the periods of international peacekeeping force intervention; UNEF2 is the second United Nations Emergency Force (October 1973 to July 1979), UNIFIL is the United Nations Interim Force in Lebanon (March 1978 forward), MNF1 is the first Multi-National Force (August to September 10, 1982) and MNF2 is the second Multi-National Force (September 26, 1982 to March 1984), and ADF is the Arab Deterrent Force (June 1976 to August 1982), which was sent by

the Arab League.[15] If the interventions add stability to Lebanon it is expected that the Lebanese Pound will appreciate, and that the magnitude of the appreciations will represent their degree of effectiveness as evaluated by the participants in the foreign exchange market.

The model specified earlier in Equation (1) is easily expanded to include more than one intervention. The model to be estimated includes transfer functions for each of the above interventions and also one variable to estimate the impact of the many U.N. Security Council resolutions passed that either demanded a cease-fire in Lebanon or the withdrawal of foreign troops from Lebanon. It also includes terms to capture any impacts caused by the removal of the peacekeeping forces. The model to be estimated is:

$$\begin{aligned}\nabla S_t = \alpha &+ \nu_1(B)\,RES_t + \nu_2(B)\,ADF_t + \nu_3(B)\,UNIFIL_t \\ &+ \nu_4(B)\,MNF1_t + \nu_5(B)\,MNF2_t + \nu_6(B)\,MNF2out_t \\ &+ \nu_7(B)\,UNEF2_t + \nu_8(B)\,UNEF2out_t + \eta_t\end{aligned} \qquad (3)$$

Where, RES_t is an indicator variable that takes the value of one in the month of a Security Council resolution. The other variables correspond to indicator variables that take the value of one in the period of the international force intervention. Because all of the troop interventions were

[15] Many of the historical accounts of these and subsequently mentioned interventions in this paper were taken from the Encyclopedia Americana's annual yearbook entitled *The Americana Annual*, as well as the various sources listed in the references section of this paper on each subject.

carried out in the same month as the decisions to send the forces were made, there was no need to directly specify the impact of the decisions. The variable $UNEF2out_t$ corresponds to an indicator variable of the month in which the UNEF2 pulled out, and $MNF2out_t$ is specified similarly. This same variable could not be estimated for the ADF and MNF1 because the month of their withdrawal corresponded with another intervention. One implicit constraint in the model specification is that since MNF1 was only present for one month and MNF2 intervened the same month MNF1 left, it is empirically arbitrary whether any of the second period, or later, responses are assigned to MNF1 or MNF2. Thus, for modeling purposes, MNF1 is constrained to only have an impact during the month of their intervention.

The number of lags included in both the numerator and denominator of the transfer functions, as well as the delay, were all chosen by performing a grid search using the Bayesian Information Criterion (BIC), subject to the constraint that the model must produce residuals which are not significantly different from white noise at the 5 percent confidence level.[16] This method of lag selection is atheoretical and requires the least amount of subjective modeling. The actual maximum likelihood estimates of the coefficients are given in Table 6.1. Because, for many of the interventions, the

[16] See Rissanen (1978), Schwarz (1978), and Mills (1990) page 138 for explanations of this model selection criterion. It is also known as the Schwarz Criterion.

transfer function was composed of more than one coefficient, the test of the significance of the intervention is given by an F-test of the joint significance of all of the terms in each transfer function.[17] Table 6.2 shows the F-statistic for this test and the estimated long-run impact, with a 95 percent confidence interval, for each of the interventions in Lebanon.[18]

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[17] A U.N. intervention may not only cause a change in the level of the exchange rate, but also a change in the variance of the exchange rate. Interventions meant to stabilize a country may also cause a lowering of the variance in the exchange rate. While this would not bias the point estimates of the transfer functions, it will make the estimates inefficient. In the case of a policy reducing the variance of the exchange rate, the standard error of the intervention will be biased upward, leading to an underestimate of its significance.

[18] The use of the SDR per foreign currency exchange rates were considered as an alternative to the U.S. Dollars per foreign currency rates. For both Lebanon and South Africa, there was almost perfect correlation between these two rates over the sample period, and the results obtained here do not significantly depend upon the choice of the U.S. Dollar rates rather than the SDR rates.

Table 6.1 - Maximum Likelihood Estimates of the Lebanese Intervention Model

Variable		Coefficient Estimate	Standard Error
Constant		-0.0044150**	0.0007961
U.N. Security Council Resolution	ω_0	0.0024229	0.0029085
Arab Deterrent Force (in)[b]	ω_4	0.0377630**	0.0074923
	ω_5	0.0297638**	0.0074927
U.N. Interim Force in Lebanon (in)	ω_0	0.0038973	0.0079732
1st Multi-National Force (in)	ω_0	0.0205827*	0.0079738
2nd Multi-National Force (in)	ω_0	0.0259915**	0.0070262
	δ_1	0.5849070**	0.1563520
2nd Multi-National Force (out)	ω_0	0.0036777	0.0074985
2nd U.N. Emergency Force (in)[c]	ω_2	0.0151817**	0.0054943
	δ_1	0.8612472**	0.0583225
2nd U.N. Emergency Force (out)	ω_0	0.0018009	0.0079737
R^2		0.3859858	
Q(33)		45.2488	
BIC		-9.3714	
Observations[a]		139	

Notes: * significant at 5%, ** significant at 1%, [a] first differencing reduced the sample by one observation and five pre-sample observations were needed for the lags, [b] the BIC criterion favored a four period delay in the initial response to the ADF intervention, [c] the BIC criterion favored a two period delay in the initial response to the UNEF2 intervention.

Table 6.2 - Significance and Appreciation Impact of the International Interventions in Lebanon

Intervention	F-statistic[b]	Asymptotic Impact (95% Confidence Interval)[a]
U.N. Security Council Resolution	0.694	0.0024 (-0.0034 to 0.0082)
Arab Deterrent Force (in)	20.40**	0.0675 (0.0569 to 0.0782)
U.N. Interim Force in Lebanon (in)	0.239	0.0039 (-0.0120 to 0.0198)
1st Multi-National Force (in)	6.66*	0.0206 (0.0046 to 0.0365)
2nd Multi-National Force (in)	26.50**	0.0626 (0.0319 to 0.1689)[c]
2nd Multi-National Force (out)	0.241	0.0037 (-0.0113 to 0.0187)
2nd U.N. Emergency Force (in)	352.15**	0.1094 (0.0540 to 0.2482)[c]
2nd U.N. Emergency Force (out)	0.051	0.0018 (-0.0141 to 0.0177)

Notes: * significant at 5%, ** significant at 1%, [a] 95% confidence interval = ± 2 standard errors, [b] joint significance test for all terms in the transfer function, the degrees of freedom for the test are: (2,127) for ADF, UNEF2, and MNF2; (1,127) for the others, [c] calculated using Monte Carlo simulation.

The Security Council Resolutions calling for a cease-fire or troop withdrawal are insignificant, suggesting that the resolution itself is not viewed by the exchange market as leading to an improvement in the Lebanese situation. This finding is consistent with the public choice theory discussed earlier. The estimated appreciation in the Lebanese Pound caused by the Arab Deterrent Force easily rivals the

appreciations caused by the U.N. forces. This would seem to contradict the theory that U.N. forces are more efficient than regional forces because of their ability to take into account the externalities from peace. The intervention that caused the largest appreciation was the second U.N. Emergency Force, followed by the Arab Deterrent Force and the second Multi-National Force. The smallest exchange rate movements were caused by the first Multi-National Force and the U.N. Interim Force in Lebanon. Besides UNIFIL, all of the peacekeeping interventions caused significant permanent appreciations of the Lebanese Pound.

While Table 6.2 shows the long-run impacts of the interventions, it does not show the dynamic responses to the interventions. As mentioned before the response can be abrupt, taking place in the first month or two, or it can be gradual, taking many months to feel the full impact. The gradual responses are obtained from the transfer functions with denominator terms. To see these dynamic responses, Table 6.3 shows the percent of the asymptotic impacts (shown in Table 6.2) that are felt by different months after the intervention.

Table 6.3 - Dynamic Response of Lebanese Pound to the International Interventions

Intervention (actual length)	Percent of asymptotic impact realized by:					
"abrupt" interventions	1 mo	2 mo	3 mo	4 mo	5 mo	6 mo
U.N. Security Council Resolution	100	100	100	100	100	100
Arab Deterrent Force (in)[b] (74 months)	0.0	0.0	0.0	0.0	55.9	100
U.N. Interim Force in Lebanon (in) (81+ months)	100	100	100	100	100	100
1st Multi-National Force (in) (1 month)	100	100	100	100	100	100
2nd Multi-National Force (out)	100	100	100	100	100	100
2nd U.N. Emergency Force (out)	100	100	100	100	100	100
"gradual" interventions	1 mo	3 mo	6 mo	12 mo	24 mo	36 mo
2nd Multi-National Force (in) (5 months)	41.5	80.0	96.0	99.8	100	100
2nd U.N. Emergency Force (in)[c] (69 months)	0.0	13.9	45.0	77.6	96.3	99.4[a]

Notes: [a] Full asymptotic impact of UNEF2 was felt at month 69, [b] the BIC criterion favored a four period delay in the initial response to the ADF intervention, [c] the BIC criterion favored a two period delay in the initial response to the UNEF2 intervention.

In all cases except one, the full appreciation impact had occurred by the time of the force's withdrawal. Also, from Table 6.2, the withdrawal of both UNEF2 and MNF2 are insignificant, suggesting that the forces were not significantly contributing to the stabilization of Lebanon at the time of their withdrawal. These facts would seem to be consistent with the theory described earlier that Lebanon would have an incentive to keep the forces for a period longer than would be efficient by over-representing their valuation to the Security Council.

V. United Nations Interventions in South Africa

The international interventions in South Africa are sharply in contrast to those with Lebanon. While the U.N. actively pursued a policy to stabilize and aid the country of Lebanon, it actively tried to destabilize and change the political structure of South Africa. The U.N. has intervened into South Africa with its policy on many occasions. South African military missions in Angola, Mozambique, Zimbabwe, and Botswana drew condemnations from the Security Council, as well as did their reluctance to grant independence to Namibia. South Africa's policy of apartheid not only drew condemnations, but also economic sanctions. The South African

delegation has even been thrown out of the General Assembly more than once.

During the 1980s, the General Assembly repeatedly called for strong economic sanctions to be placed upon South Africa, of which most were vetoed in the Security Council by the U.S. or Great Britain. However, the U.N. Security Council did impose a mandatory arms embargo in November 1977, and again urged member states to impose sanctions in July 1985. In 1985, the United States and the European Community did impose sanctions, both of which were later broadened in 1986. The South African Rand, however, was pegged until the beginning of 1979. Thus, the sample period for South Africa will begin January 1979 and continue until September 1992. Figure 6.2 shows the nominal U.S. Dollars per South African Rand exchange rate starting in January 1985.[19]

Figure 6.2 also shows a series of indicators denoting the beginning and ending of economic sanctions on South Africa. US1/EC1on is the first set of economic sanctions imposed upon South Africa by both the United States and the European Community during September of 1985. EC2on and US2on are the

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[19] The results presented here are for the Commercial Rand. The Financial Rand was reintroduced in September of 1985 and thus could not be used for the first round of sanctions. Using the Financial Rand to measure the impact of the second round of sanctions also produces a temporary depreciation, of about the same magnitude but with a slightly longer duration. For ease of comparability the estimates derived from the Commercial Rand for both rounds of sanctions are presented here. For an interesting discussion of the political motivation for, and economic impact of, the reintroduction of the Financial Rand see Kaempfer and Moffett (1988).

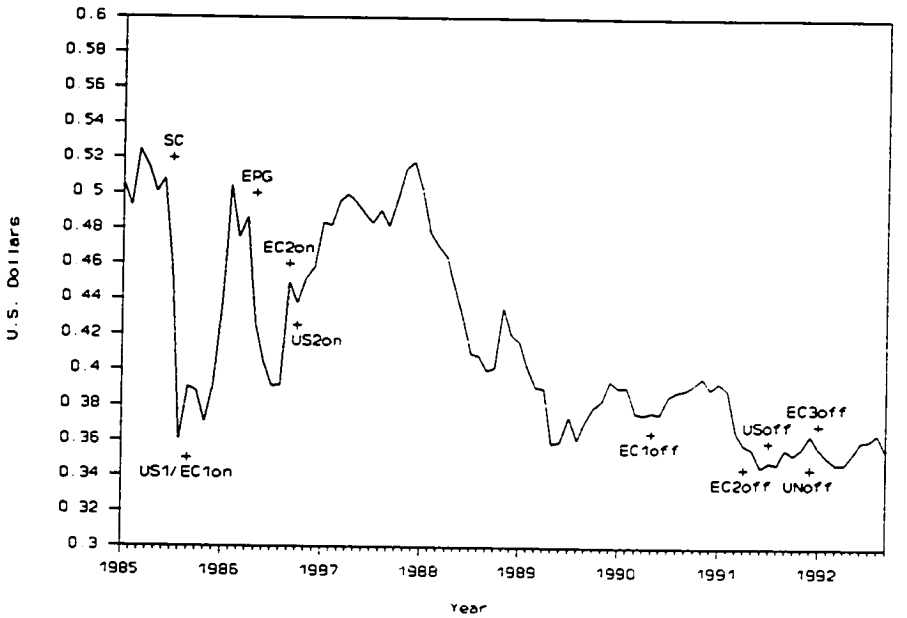

Figure 6.2 - U.S. Dollars per South African Rand, 1985 - 1992

second set of sanctions imposed during the fall of 1986. The Scandinavian countries also imposed sanctions in August 1986, which is not shown in the figure. EC1off, EC2off, EC3off, USoff, and UNoff are the removal of the sanctions against South Africa by the European Community, the United States, and the United Nations. The European Community removed their sanctions in three stages.

Unlike with Lebanon, the South African interventions were preceded by announcements and expectation effects. While the actual US1/EC1 sanctions were imposed during September 1985, the U.N. Security Council called for states to apply sanctions

in July 1985. This is shown in Figure 6.2, denoted by SC, and in this month the Rand depreciated by approximately ten U.S. Cents. The U.S. sanctions passed the House of Representatives in August and were imposed by an executive order in September. In Figure 6.2 it is evident that the major impact of the sanctions were felt as a result of the expectations. Actually in the month in which the sanctions were imposed there was an appreciation of the Rand, probably due to the imposed sanctions being less severe than was anticipated. Again, in the second round of 1986 sanctions, the major impact was felt before their implementation. While the second European Community sanctions were imposed in September, the Eminent Persons Group, sent to South Africa by the Commonwealth to investigate the political conditions there, abruptly left on May 19th after South African attacks on representatives of the African National Congress. As they left they concluded that further economic sanctions were needed and speculation concerning these second round sanctions depreciated the Rand. This is shown in Figure 6.2, denoted by EPG. When the actual sanctions were imposed by the Commonwealth, European Community members, and Japan, the United Kingdom refused to impose new mandatory sanctions. The second set of U.S. sanctions was imposed on October 2, over a presidential veto in September. The Rand's appreciation in September, the month of the E.C. sanction's imposition, was probably due to a combination of the U.K.'s refusal to impose stronger sanctions and the U.S.

presidential veto. In October, when the second U.S. sanctions were imposed over the presidential veto, there was a depreciation in the Rand.

Thus, unlike for Lebanon, the empirical model will have to take into account the announcement or expectation effects that occurred during the months prior to the actual sanction imposition. Another complicating factor in these interventions is that it will be impossible to discern the differing impacts of the policies because they occurred so close together. What can be estimated, however, is the combined impact of the first and second set of international sanctions.

Based upon the public choice theory discussed earlier, and other evidence, it is expected that the sanctions imposed upon South Africa may not have any substantial permanent effect on their exchange rate. Even before the empirical estimates are done, a casual glance at Figure 6.2 seems to suggest that the sanctions will be estimated to have only a temporary effect.

The BIC is again used to estimate the orders of all transfer function terms and the delays. To take into account the expectations effects, the interventions are assumed to start in the announcement month. Because of the closeness of the first round interventions (the U.S. House passing them, and their implementation simultaneously by the U.S. and the

E.C.), a combined effect was estimated. The model to be estimated is,

$$\begin{aligned}\nabla S_t = \alpha &+ \nu_1(B)\,COMBO1_t + \nu_2(B)\,EPG_t + \nu_3(B)\,US2on_t \\ &+ \nu_4(B)\,EC1off_t + \nu_5(B)\,EC2off_t + \nu_6(B)\,EC3off_t \\ &+ \nu_7(B)\,USoff_t + \nu_8(B)\,UNoff_t \\ &+ \nu_9(B)\,SC1_t + \nu_{10}(B)\,SC2_t + \eta_t\end{aligned} \tag{4}$$

where, $COMBO1_t$ is an indicator variable for the month in which the U.N. Security Council urged member states to apply sanctions. EPG_t is an indicator variable for the month in which the Eminent Persons Group, appointed by the Commonwealth, left South Africa recommending sanctions. $US2on_t$ is an indicator for the month in which the second set of U.S. sanctions were imposed over the presidential veto. When the impulse responses are computed for EPG and US2on, their effects will be combined because of their possible overlapping effects. They will be jointly considered the second round of sanctions. The variables $EC1off_t$, $EC2off_t$, and $EC3off_t$ represent the removal, in stages, of the European Community's sanctions. $USoff_t$ and $UNoff_t$ similarly represent the removal of the U.S. and U.N. sanctions. It is expected that if the sanctions only had temporary effects, then their removal should be insignificant. The variable $SC1_t$ is an indicator variable denoting a Security Council resolution condemning South Africa, and $SC2_t$ is the Security Council's resolution declaring the South African elections and new

constitution null and void. The results of the maximum likelihood estimation of the model are given in Table 6.4. Table 6.5 shows the F-statistics and long-run appreciation/depreciation effects of the international interventions in South Africa.

Table 6.4 - Maximum Likelihood Estimates of the South African Intervention Model

Variable		Coefficient Estimate	Standard Error
Constant		-0.0064908**	0.0020448
U.N. Security Council Resolution Condemning South Africa	ω_0	0.0120718	0.0073728
U.N. Security Council Resolution Voiding Elections[b]	ω_1	-0.0303092	0.0224932
	ω_2	-0.0610092**	0.0224932
First Round of International Sanctions (on)	ω_0	-0.0510810*	0.0234934
	ω_1	-0.1045810**	0.0234934
	ω_2	0.0244190	0.0234934
	ω_3	-0.0080310	0.0234934
	ω_4	-0.0110592	0.0224932
	ω_5	0.0149190	0.0234934
	ω_6	0.0534908*	0.0224932
	ω_7	0.0609190*	0.0234934
Second Round of International Sanctions (on)	ω_0	-0.0545092*	0.0224932
	ω_1	-0.0145092	0.0224932
	ω_2	-0.0070092	0.0224932
	ω_3	0.0069908	0.0224932
	ω_4	0.0644908**	0.0224932
US2on	ω_0	-0.0055092	0.0224932
EC1off	ω_0	0.0080408	0.0224932
EC2off	ω_0	-0.0007992	0.0224932
EC3off	ω_0	-0.0010492	0.0224932
USoff	ω_0	0.0093308	0.0224932
UNoff	ω_0	0.0139108	0.0224932
R^2		0.3498623	
Q(33)		39.4926	
BIC		-6.8332	
Observations[a]		151	

Notes: * significant at 5%, ** significant at 1%, [a] first differencing and lags reduced the sample by eight observations, [b] the BIC criterion favored a one period delay in the initial response to the resolution voiding elections.

Table 6.5 - Significance and Appreciation/Depreciation Impact of South African Interventions

Intervention	F-statistic[b]	Asymptotic Impact (95% Confidence Interval)[a]
U.N. Security Council Resolution Condemning South Africa	2.68	0.0121 (-0.0027 to 0.0268)
U.N. Security Council Resolution Voiding Elections	4.56**	-0.0913 (-0.1232 to -0.0594)
First Round of International Sanctions (on)	5.27**	-0.0240 (-0.1952 to 0.1256)[c]
Second Round of International Sanctions (on)	2.48*	-0.0101 (-0.1299 to 0.1017)[c]
U.N. Sanctions off	0.382	0.0139 (-0.0311 to 0.0589)
U.S. Sanctions off	0.172	0.0093 (-0.0357 to 0.0543)
First E.C. Sanctions off	0.128	0.0080 (-0.0369 to 0.0530)
Second E.C. Sanctions off	0.001	-0.0008 (-0.0458 to 0.0442)
Third E.C. Sanctions off	0.002	-0.0010 (-0.0460 to 0.0439)

Notes: * significant at 5%, ** significant at 1%, [a] 95% confidence interval = ± 2 standard errors, [b] joint significance test for all terms in the transfer function, the degrees of freedom for the test are: (8,128) for first set of sanctions; (6,128) for the second set of sanctions; (2,128) for resolution voiding elections; (1,128) for the others, [c] calculated using Monte Carlo simulation.

Only the U.N. Security Council resolution declaring the new constitution null and void is estimated to have caused a significant long-run change in the value of the South African Rand. All of the sanctions caused significant short-run changes as is shown by the significance of the transfer functions, however, the long-run impacts are not significant. This suggests that the sanctions caused only temporary depreciations in the South African Rand. Note that in no case did the removal of the sanctions cause a significant appreciation. Through Monte Carlo simulation it is possible to construct the impulse responses and confidence intervals for the first and second set of international sanctions. Figure 6.3 shows the impulse response of the U.S. Dollars per South African Rand nominal exchange rate to the first set of international sanctions.

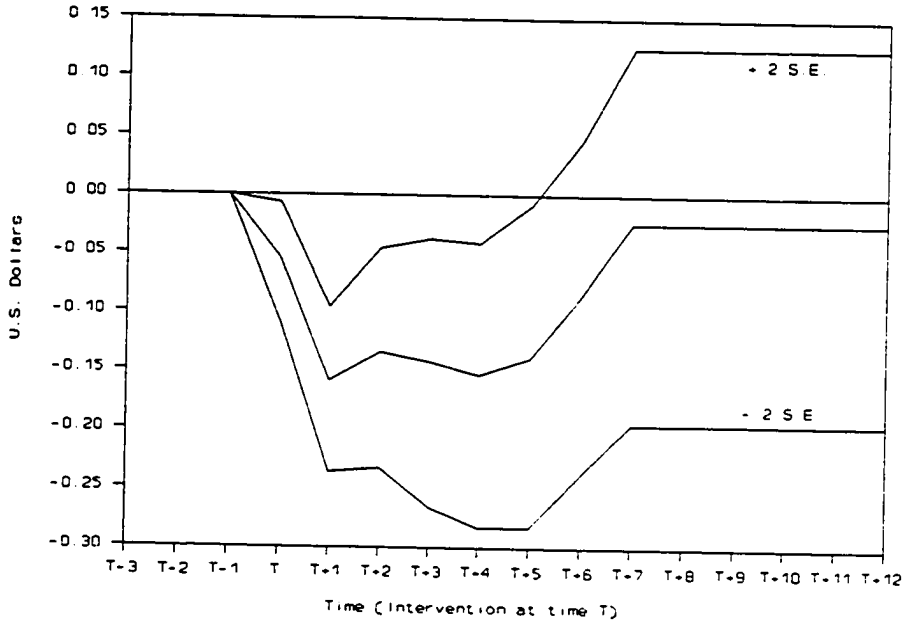

Figure 6.3 - Response of the Rand to the First Round of International Sanctions

Figure 6.3 shows that the first set of sanctions caused a significant temporary depreciation of the Rand of approximately fifteen U.S. Cents. The impact was only temporary and by the fifth month, the impact was no longer significant. Figure 6.4 shows the impulse response of the Rand to the second set of international sanctions.

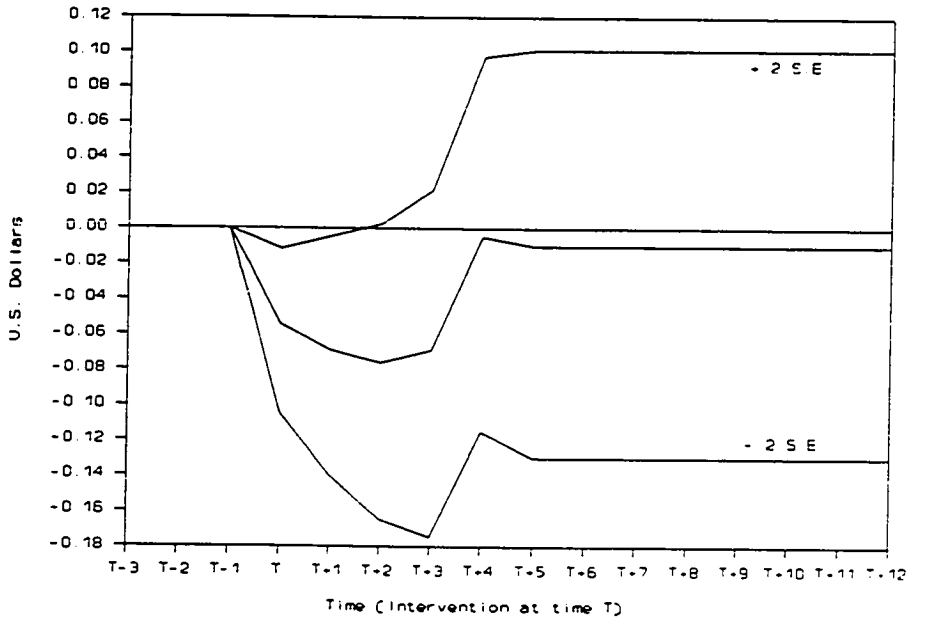

Figure 6.4 - Response of the Rand to the Second Round of International Sanctions

Again, the sanctions caused a significant temporary depreciation of the Rand of approximately eight U.S. Cents. The impact was temporary and by the second month, the impact was no longer significant. While the first round of sanctions caused a longer and deeper depreciation than the second round, neither set of sanctions caused a long-run depreciation. This evidence is consistent with the hypothesis that these sanctions represented special interest influence, rather than honest attempts to impose economic damage on South Africa. While this analysis centers around the impact on exchange

rates, Kaempfer and Moffett (1988) also find little evidence of economic damage to South Africa from the 1986 round of sanctions in other financial variables, such as terms of trade, gold exports and prices, and U.S. bank claims and liabilities to South Africa. As they point out, however, financial variables do not fully reflect the potential for important political changes through other channels such as changing political attitudes. Also, financial variables may not fully reflect the costly actions taken by the South African government to offset the negative economic consequences of the sanctions.

VI. Conclusion

This chapter has examined the impact of U.N. policy interventions on the exchange rates of Lebanon and South Africa. In the case of Lebanon, the U.N. peacekeeping forces were found to have caused a substantial long-run appreciation of the Lebanese Pound. Comparing the effects of the U.N. interventions with the Arab League's intervention, it appears that there is not much validity to the argument that the U.N. may be more efficient at providing peace in Lebanon than a regional organization. There is evidence to suggest that the peacekeeping forces may have remained in Lebanon for a longer period than would be efficient because of the incentive for

Lebanon to over-represent their demand for the maintenance of these forces. In fact, the United Nations Interim Force in Lebanon, deployed in March 1978, still remains there.

In the case of South Africa, the international sanctions placed upon them during the mid 1980s seemed to have only caused temporary depreciations in the South African Rand. These sanctions do not appear to have caused any significant long-run change in the Rand's value. Based upon this evidence, it appears that the economic sanctions placed upon South Africa were more symbolic rather than having real economic effects.

In both the Lebanese and South African case, it appears that repeated U.N. Security Council resolutions condemning or demanding actions, that are not backed by actual U.N. intervention, do not cause changes in the exchange rate. Thus, these resolutions are more symbolic, and in this gives weight to the theory that they represent attempts of the Security Council members to gain prestige and approval from their home country constituents.

A more general implication from public choice theory, which is consistent with these empirical findings, is that the U.N. appears to have been more successful at performing peacekeeping functions in Lebanon than at performing coercive sanction policies against South Africa. From a public choice perspective, this seems reasonable because a joint peacekeeping effort has less ability to be manipulated by

country-specific special interest groups than independently imposed economic sanctions. The primary function of the United Nations is peacekeeping and in this area they appear to be relatively effective. Even recent U.N. interventions along these lines in Kuwait and Somalia appear to have been relatively successful. There is, however, reason to believe that U.N. policy goals forwarded by economic sanctions will be relatively ineffective as they are easily manipulated by home country special interest groups. The arms embargo imposed upon the republics of the former Yugoslavia appear to be another recent example of the ineffectiveness of U.N. sanctions. The two cases examined here are supportive of the idea that the United Nations is more effective when it uses peacekeeping military interventions rather than economic sanctions to pursue policy goals.

CHAPTER 7

CONCLUSION

I. Public Choice and the United Nations: A Review

This dissertation has applied modern public choice theories to the set of international organizations that are broadly considered to be the United Nations system. New insights into the formation and operation of the United Nations system were found by studying the personal incentives faced by the relevant decision-makers. This work adds to the new and growing subdiscipline of public choice economics entitled the "New International Political Economy", that concentrates upon applying public choice principles to international organizations.

For many years, laymen and theoreticians alike have repeatedly pointed to the apparent failure of international organizations to achieve their goals. The public choice approach used in this dissertation offers new insights into the reasons for this apparent failure of international organizations using theories traditionally applied to national

governments. Public choice theory has also been used to suggest improvements that might enable international organizations such as the United Nations to be more successful. Not only has this dissertation used public choice/public finance analysis to add to our understanding of international organizations, but it has also used the United Nations system as a fresh testing ground for many public sector theories. The following section describes the conclusions reached in the chapters of this dissertation.

II. The Conclusions Reached in this Dissertation

The second chapter of this dissertation discussed the U.N. Charter and the League of Nations Covenant within the framework of international constitutions. The social contractarian and public choice approaches to national constitutional analysis was able to lend a new perspective to the analysis of international constitutions such as the United Nations Charter and the League of Nations Covenant. An examination of both documents found that the reasons for their development are consistent with the contractarian theory.

A graphical model was also developed in Chapter 2 to analyze the formation and failure of these two international organizations. In the case of the League of Nations, the failure was caused by a combination of two main factors. The

first factor was the redistribution of the organization's power in favor of the Small Powers during the League's more successful years. Second, the loss in the absolute power of the League itself. This loss in power was caused by the free rider problem in the League's use of sanctions and military action, and the ability of a Great Power to block the League's action in situations where they were the aggressor. This combination of the factors led to the Great Powers having more success if they attempted to influence international events outside of the League, and is why the League was never even consulted during the years prior to World War II. These are also the reasons why the Great Powers completely abandoned the League, and its Covenant, after World War II. They formed a completely new organization, the United Nations, with a completely new constitution, the Charter, which was more favorable to themselves.

After the formation of the League, amendments were proposed to fix many of the problems that led to its eventual downfall. These amendments were never ratified. It is quite possible that if these amendments had been ratified that the League could have possibly prevented World War II and still be functioning today.

The factors that contributed to the League's failure had a major influence on the wording of the United Nations Charter and the structure of the organization itself. The Charter includes provisions that are meant to overcome the free rider

problem in the League. The Charter also requires a constitutional amendment to change the number of non-permanent seats on the Security Council. Additionally, the Charter does not require the unanimous consent of Small Power nations for Security Council decisions. While the Charter, in these areas, represents an improvement over the Covenant, it is still susceptible to a Great Power's veto if they are the aggressor. It is questionable whether the United Nations would be able to handle, or prevent, a war involving a Great Power nation, and it has yet to be tested. Proposed amendments to the Charter that would take away the Great Power veto on the Security Council and further expand the number of non-permanent seats have not been ratified.

The model presented in this chapter could also be used to analyze the formation of many other international arrangements such as the European Community and the Commonwealth of Independent States, that emerged from the former Soviet Union. The analysis of international constitutions is an interesting extension of the tools provided by constitutional economics, that have mostly been applied to national constitutions. These tools add to the understanding of many international organizations that exist today and to the ongoing formation and evolution of international agreements.

Chapter three discussed the budgets of the U.N. system. It gave a general overview of this decentralized fiscal system, showing the distribution of expenditures by both

source and function. Trends in expenditures were analyzed, and theoretical propositions regarding the size and growth of the budgets were discussed in relation to the actual data.

That chapter found that almost half of the total U.N. system expenditures in 1990 were financed through assessments on member nations. As public finance theory would suggest, assessments are heavily relied upon to finance expenditures on the provision of public goods, regulation, and peacekeeping. Only 25 percent of transfer oriented expenditures, however, are financed through assessments. While the ability-to-pay criterion is mostly used to determine budget contributions, some specialized agencies that produce public goods and provide regulation base their assessments on member countries' usage.

For many years, people have pointed to the free rider problem associated with voluntary membership as one reason that the U.N. system budgets are small in absolute terms. However, the agencies most susceptible to this problem tend to be the most universal in membership yielding little support to this free rider hypothesis. Applications of bureaucracy theory also make questionable the traditional claim that U.N. budgets are inefficiently small.

The rapid growth in real U.N. system expenditures between 1960 and 1980, averaging almost 10 percent annually, can almost solely be attributed to growth in transfer oriented programs. In most time periods, the U.N. Organization and all

of the specialized agencies grew more rapidly than even the U.S. federal government. One possible explanation for the rapid growth in the U.N. system budgets is the dirty-work hypothesis of Vaubel (1991). This hypothesis maintains that international organizations will tend to supply a large degree of national special interest benefits. The fact that most U.N. agencies tend to have a relatively universal membership is consistent with this hypothesis because if national politicians receive private benefits from membership in these organizations the incentive to free ride disappears.

The dissatisfaction with the large budget growth by the member nations of the U.N., however, suggests that some of the growth is due to factors other than the members' growing demand for special interest benefits. The falling assessment level of the decisive budgetary voter, because of increased U.N. membership, also seems to account for some of the budgetary growth not attributed to these other factors in a regression analysis. The special interest hypothesis, however, seemed to account for the largest share of the observed growth.

Chapter four looked at free riding on international organizations, specifically GATT. There are a set of countries, the *de facto* members, who receive the benefits of GATT without contributing to the budget and without being bound to reciprocate trade barrier reductions. There have been substantial changes in GATT policy toward *de facto*

membership, most notably the 1967 change that allows the *de facto* members to maintain that status indefinitely as long as they adhere to the general intents of GATT. There is evidence, however, that suggests that GATT has not been fully enforcing this policy on the *de facto* members. The tax revenue of the *de facto* members as a proportion of international transactions is significantly higher than that of the contracting parties to GATT and is not significantly different from the non-member countries. The vast majority of the current *de facto* members have had that status for over 10 years, and have relatively little incentive to become contracting parties if it is possible for them to continue receiving the benefits of trade barrier reductions without having to incur the full costs of being contracting parties. This problem has been enhanced, if not caused, by the 1967 change in GATT policy that appears to condone the use of *de facto* membership as a form of membership, rather than as a stepping stone in the path of becoming a contracting party.

A special distinction was made between two groups of free riders. The "true free riders" are those that would be willing to bear the full cost of membership in order to keep the benefits. The "induced riders" are those that would opt out of GATT membership if they were forced to pay because they value the benefits below the full cost of membership. Because it is only the true free riders that contribute to the undersupply of services in a free rider situation, this

distinction is an important one to make. A logistic regression model was used to obtain predicted probabilities for the *de facto* members. By summing the predicted probabilities, it was estimated that approximately 20 of the 28 *de facto* members would join if all were forced with exclusion. Thus, this technique provides an empirical estimate of the extent of the true free rider problem in GATT.

While it would be relatively simple for GATT to solve the free rider problem, there may be reasons why it may not be beneficial to the contracting parties to do so. Because the *de facto* member countries are relatively small players in the international trade arena, their budget contributions would be small. Similarly, the gains to the contracting parties from getting further trade barrier reductions are also small. The costs of solving the problem, however, may be substantial for the GATT members because GATT uses a non-weighted voting procedure. Upon joining, a small *de facto* member such as Seychelles would be given a vote equal to the vote of a larger country such as the United States. The current contracting parties may not be willing to suffer the dilution in their voting power in order to obtain the small amount of benefits from getting the *de facto* members to become full members.

Given that smaller countries provide smaller benefits to the current members when they join, and that current members will suffer a larger dilution in voting power under a non-weighted voting scheme, it may be more beneficial for current

members of international organizations that use non-weighted voting procedures to allow smaller countries to free ride. In this manner they can obtain some benefits from the smaller countries without the loss in voting power. This more general implication, that free riding should be more prevalent among international organizations that use non-weighted voting procedures, is not directly tested here, but is an avenue for further research in the field of international political economy. It is consistent with this analysis of the *de facto* members of GATT.

The evidence in this chapter, that governments do free ride, is interesting in light of the fact found earlier that most transfer oriented U.N. agencies have a universal membership. If one concludes that governments do free ride, then the question arises of why they are not free riding on these other agencies. Perhaps the best explanation for this is that the transfer oriented agencies do provide excludable benefits, rather than world public goods. That is, the member countries of these transfer oriented organizations receive benefits only if they are members. Because the aid given through these organizations is often tied to the purchase of certain goods, the donor countries receive benefits that are directly tied to their participation in the agency. This

explanation is consistent with the dirty-work hypothesis of Vaubel.[20]

Chapter five looked at one of the most important issues in public choice theory, political stability. This chapter used data on cross country voting correlations in the U.N. General Assembly to assess the stability of voting coalitions from 1946 to 1973. The lack of clearly defined political parties and the more than doubling of U.N. membership during this period make it an even more interesting place to study political stability. This chapter used data on the frequency and degree of coalitional changes to measure the degree of stability in the United Nations in light of the body of literature on political cycling. It found that there is a substantial degree of stability in the U.N. international voting coalitions. Nations rarely deviate away from their base bloc, and when they do, they are very likely to return within a year or two. Because United Nations voting should, if anything, be less stable than voting in legislatures, this chapter provides some suggestion that legislative voting in general exhibits stability. This evidence also suggests that it is not unstable support for U.N. policies that led to their failure. If it is not the voting mechanism in the U.N. that leads to the failures, it must be either that the types of policies enacted are inherently flawed or that the failure

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[20] Another possibility is that only smaller countries free ride, and in transfer oriented agencies they are recipients and thus have no incentive to do so.

comes from the way in which the policies are carried out. This suggests that future research geared toward explaining U.N. failure be centered around discovering the incentives for nations to enact certain types of policies and the incentive structures facing the U.N. bureaucrats who carry out these policies.

Chapter six looked at the effectiveness of specific U.N. interventions, such as peacekeeping forces in Lebanon and sanctions against South Africa. This chapter used exchange rate data to estimate the appreciations (or depreciations) caused by these interventions, and considered those movements a measure of the degree of effectiveness of the policy. In the case of Lebanon, the U.N. peacekeeping forces were found to have caused a substantial long-run appreciation of the Lebanese Pound. Comparing the effects of the U.N. interventions with the Arab League's intervention, it appeared that there is not much validity to the argument that the U.N. may be more efficient at providing peace in Lebanon than a regional organization. There is evidence to suggest that the peacekeeping forces may have remained in Lebanon for a longer period than would be efficient because of the incentive for Lebanon to over-represent their demand for the maintenance of these forces. In fact, the United Nations Interim Force in Lebanon, deployed in March 1978, still remains there.

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caused temporary depreciations in the South African Rand. These sanctions do not appear to have caused any significant long-run change in the Rand's value. Based upon this evidence, it appears that the economic sanctions placed upon South Africa were more symbolic rather than having real economic effects.

In both the Lebanese and South African case, it appears that repeated U.N. Security Council resolutions condemning or demanding actions, that are not backed by actual U.N. intervention, did not cause changes in the exchange rate. Thus, these resolutions are more symbolic, and in this gives weight to the theory that they represent attempts of the Security Council members to gain prestige and approval from their home country constituents.

A more general implication from public choice theory, that is consistent with these empirical findings, is that the U.N. appears to have been more successful at performing peacekeeping functions in Lebanon than at performing coercive sanction policies against South Africa. From a public choice perspective, this seems reasonable because a joint peacekeeping effort has less ability to be manipulated by country-specific special interest groups than independently imposed economic sanctions. The primary function of the United Nations is peacekeeping and in this area they appear to be relatively effective. Even recent U.N. interventions along these lines in Kuwait and Somalia appear to have been

relatively successful. There is, however, reason to believe that U.N. policy goals forwarded by economic sanctions will be relatively ineffective as they are easily manipulated by home country special interest groups. The arms embargo imposed upon the republics of the former Yugoslavia appear to be another recent example of the ineffectiveness of U.N. sanctions. The two cases examined in this chapter were supportive of the idea that the United Nations is more effective when it uses peacekeeping military interventions rather than economic sanctions to pursue policy goals.

III. Concluding Remarks: A Normative Statement

The main focus of this dissertation has been to reach positive, factual conclusions about the origin and operations of the United Nations system. Whether the U.N. is successful, worthwhile, or a superior form of governmental organization are, however, subjective conclusions. The facts uncovered in this dissertation may lead different individuals to different conclusions about the United Nations. This concluding section offers a few of my own conclusions about the value of the Untied Nations system and the role it should play in the international community. My comments are broken into three areas, the success and value of the U.N., the superiority of

the U.N. form of governmental organization, and the proper role of the United Nations.

When evaluating the success of the U.N., it is important to distinguish among activities. The U.N. has reduced the costs of settling international disputes in a diplomatic, rather than military, matter. While the U.N. has not been able to settle all disputes, nor settle them perfectly, overall it has been a success in this area. By being able to draw from the military resources of its member nations, the U.N. has also been able to increase the stability of international property rights (e.g. international borders and boundaries). In this respect the U.N. has also been successful. The U.N.'s success in these two areas alone justifies it is as a worthwhile organization.

A key point on this issue, however, is about the scope of the activities of the United Nations. Many people believe that the U.N. does not "do a lot" and that it is too small in absolute size. Personally, I believe that if the U.S. government did as little as the U.N., and if it was as small, that it would be a good thing, not a bad one.

Throughout this dissertation it has been proposed that the U.N. is a producer of national special interest benefits. This problem is, however, not a fundamental problem with the daily workings of the U.N. itself. It is due to the incentives faced by the national delegates. There are two possible ways to reduce this problem: changing the incentive

structure faced by the national delegates, and reforming the U.N. Charter. Making the U.N. delegates be elected by a national vote, rather than a government appointment may help to alter this incentive structure. But perhaps the most effective way would be to change the U.N. Charter. A more specific definition of the things that are legitimate expenditures, requiring a larger degree of support to pass expenditure programs, or relying more heavily on user charges to finance expenditures are all possible ways that the efficiency of the U.N. could be improved constitutionally.

The organizational structure of the U.N. is, in at least one respect, superior to that of most national governments. The voluntary nature of membership constrains the U.N. from being able to involuntarily redistribute income on an international basis, from adopting taxation and expenditure policies that hurt member nations' well-being, and from imposing ideological beliefs on member nations. This type of constraint, if employed at the national level, would force national governments to be more responsive to the wishes of their constituents. Looking at the treatment of the Confederate states, who withdrew from the U.S. during the 1860s, and were militarily forced to rejoin, one realizes that the U.S. government is not the voluntary association of peoples that is depicted by constitutional economics. Some people have argued that the U.N. pushes and condones communist ideas. While some of the agencies may well do this, as long

as the U.N. is a voluntary association of countries, this is not necessarily a problem. The U.N. does not have the power to coerce member nations into adopting unpopular policies. Agencies who do push ideals at odds with those of their members will find their membership falling, as did UNESCO. The countries who do opt out of membership cannot be forced to participate in the programs of the agency, nor can they be forced to adopt its ideals. The recent failure of communism in Eastern Europe and the Soviet Union is a good signal that unrepresentative agencies in the U.N. will also fail, or evolve toward being more representative of the views of their members.

Along these lines, giving the U.N. the power of international taxation would destroy the fundamental basis for which it should stand, allowing the use of force or coercion only in retaliatory situations. Ayn Rand, when considering the role of government said,

> The precondition of a civilized society is the barring of physical force from social relationships—thus establishing the principle that if men wish to deal with one another, they may do so only by means of reason: by discussion, persuasion and voluntary, uncoerced agreement.
>
> If physical force is to be barred from social relationships, men need an institution charged with the task of protecting their rights under an objective code of rules.
>
> This is the task of a government—of a proper government—its basic task, its only moral justification and the reason why men do need a government. (Ayn Rand 1964, 108-9)

The ideas proposed by Ayn Rand are very applicable to the United Nations. If the relations among the nations (or

peoples of nations) are to be civil, the use of force and coercion must be banned except in retaliatory situations. Dealings must be done on a voluntary basis. The U.N., as it exists, is a forum for discussion and voluntary interaction. In this regard it is forwarding the civilized relations of nations of the world in the most effective manner. Giving the U.N. the power of coercion for things such as taxation would surely increase, not decrease, the strife between nations.

Also from Ayn Rand's passage, the proper role of the United Nations is clear, the protection of individual rights (both fundamental human rights and property rights) against aggression from either foreign nations or non-elected national dictators. Not only should the existing individual rights be protected, but the U.N. should also actively encourage the establishment of property rights to areas where they are nonexistent, such as the global commons (e.g. the ocean and outer space). National governments should specialize in protecting and establishing these rights on an intranational (or within nation) basis, and the U.N. on an international basis. The U.N., however, cannot be expected to be a solution to everything. While there are distinct roles for national governments and the U.N., the increasing number of regional organizations is a testament to the fact that some international problems may be better solved on a regional, rather than global, basis.

These organizations, especially the U.N., should be institutions that facilitate voluntary interactions between individuals of different nations. The proper role of GATT in breaking down international trade barriers is one such example. To this end, the U.N. should also actively protect individual rights from being invaded, as it did by protecting the property rights of Kuwaiti citizens from Iraqi invasion.

The role of the U.N. in the world is a very important one today and will be even more important in the future. The U.N. can be a driving force in promoting peaceful relations among the citizens of different nations. It can increase the volume of voluntary international transactions and international cooperation, thus increasing the welfare of all of the world's citizens. The U.N. also can be an effective in solving world common property problems. Establishing private property rights to the ocean resources is just one such example. This role of the U.N. will become even more important in the future because as technology improves, property rights need to be established in new areas. When the U.N. was founded, there was no need to have property rights to things such as satellite orbits, or moon resources. Today, however, these are areas that property rights are becoming efficient to develop. In the future the U.N. may be called upon to help establish property rights to other planets, the air, the inner reaches of the earth, and other things that will be of increasing value. The U.N. has the responsibility of being an

institution that fosters the ease in which property rights to these resources are established and enforced.

APPENDIX A

MEMBER COUNTRIES OF THE UNITED NATIONS

The following list contains the 184 member countries of the United Nations as of January 1994 with the dates of their accession.

Afghanistan	19 Nov. 1946	Albania	14 Dec. 1955
Algeria	8 Oct. 1962	Andora	28 Jul. 1993
Angola	1 Dec. 1976	Antigua and Barbuda	11 Nov. 1981
Argentina	24 Oct. 1945	Australia	1 Nov. 1945
Armenia	2 Mar. 1992[1]	Azerbaijan	2 Mar. 1992[1]
Austria	14 Dec. 1955	Bahrain	21 Sep. 1971
Bahamas	18 Sep. 1973	Barbados	9 Dec. 1966
Bangladesh	17 Sep. 1974	Belgium	27 Dec. 1945
Belarus	24 Oct. 1945[1]	Benin	20 Sep. 1960
Belize	25 Sep. 1981	Bolivia	14 Nov. 1945
Bhutan	21 Sep. 1971	Botswana	17 Oct. 1966
Bosnia and Herzegovina	22 May 1992[2]	Brazil	24 Oct. 1945
Brunei Darussalam	21 Sep. 1984	Bulgaria	14 Dec. 1955
Burundi	18 Sep. 1962	Burkina Faso	20 Sep. 1960
Cameroon	20 Sep. 1960	Cambodia	14 Dec. 1955
Cape Verde	16 Sep. 1975	Canada	9 Nov. 1945
Chad	20 Sep. 1960	Central African Republic	20 Sep. 1960
Chile	24 Oct. 1945	China	24 Oct. 1945
Colombia	5 Nov. 1945	Comoros	12 Nov. 1975
Congo	20 Sep. 1960	Costa Rica	2 Nov. 1945
Cote d'Ivoire	20 Sep. 1960	Croatia	22 May 1992[2]
Cuba	24 Oct. 1945	Cyprus	20 Sep. 1960
Czech Republic	1 Jan. 1993[3]	Denmark	24 Oct. 1945
Djibouti	20 Sep. 1977	Dominica	18 Dec. 1978
Dominican Republic	24 Oct. 1945	Ecuador	21 Dec. 1945
El Salvador	24 Oct. 1945	Egypt	24 Oct. 1945
Eritrea	28 May 1993	Equatorial Guinea	12 Nov. 1968
Estonia	17 Sep. 1991	Ethiopia	13 Nov. 1945
Fiji	13 Oct. 1970	Finland	14 Dec. 1955

France	24 Oct. 1945	Gabon	20 Sep. 1960
Gambia	21 Sep. 1965	Georgia	31 July 1992[1]
Germany	18 Sep. 1973[4]	Ghana	8 Mar. 1957
Greece	25 Oct. 1945	Grenada	17 Sep. 1974
Guatemala	21 Nov. 1945	Guinea-Bissau	17 Sep. 1974
Guinea	12 Dec. 1958	Guyana	20 Sep. 1966
Haiti	24 Oct. 1945	Honduras	17 Dec. 1945
Hungary	14 Dec. 1955	Iceland	19 Nov. 1946
India	30 Oct. 1945	Indonesia	28 Sep. 1950
Iran (Islamic Republic of)	24 Oct. 1945	Iraq	21 Dec. 1945
Israel	11 May 1949	Ireland	14 Dec. 1955
Jamaica	18 Sep. 1962	Italy	14 Dec. 1955
Jordan	14 Dec. 1955	Japan	18 Dec. 1956
Kenya	16 Dec. 1963	Kazakhstan	2 Mar. 1992[1]
Korea, Democratic People's Republic of	17 Sep. 1991	Korea, Republic of	17 Sep. 1991
Kyrgyzstan	2 Mar. 1992[1]	Kuwait	14 May 1963
Republic	14 Dec. 1955	Lao People's Democratic	
Lebanon	24 Oct. 1945	Latvia	17 Sep. 1991
Liberia	2 Nov. 1945	Lesotho	17 Oct. 1966
Liechtenstein	18 Sep. 1990	Libyan Arab	
Lithuania	17 Sep. 1991	Jamahiriya	14 Dec. 1955
Macedonia	8 Apr. 1993[2]	Luxembourg	24 Oct. 1945
Malawi	1 Dec. 1964	Madagascar	20 Sep. 1960
Maldives	21 Sep. 1965	Malaysia	17 Sep. 1957
Malta	1 Dec. 1964	Mali	28 Sep. 1960
Mauritania	27 Oct. 1961	Marshall Islands	17 Sep. 1991
Mauritius	24 Apr. 1968	Mexico	7 Nov. 1945
Micronesia	17 Sep. 1991	Moldavia	2 Mar. 1992[1]
Mongolia	27 Oct. 1961	Monaco	28 May 1993
Morocco	12 Nov. 1956	Mozambique	16 Sep. 1975
Myanmar	19 Apr. 1948	Namibia	23 Apr. 1990
Nepal	14 Dec. 1955	Netherlands	10 Dec. 1945
New Zealand	24 Oct. 1945	Nicaragua	24 Oct. 1945
Niger	20 Sep. 1960	Nigeria	7 Oct. 1960
Norway	27 Nov. 1945	Oman	7 Oct. 1971
Ouzbekistan	2 Mar. 1992	Pakistan	30 Sep. 1947
Panama	13 Nov. 1945	Papua New Guinea	10 Oct. 1975
Paraguay	24 Oct. 1945	Philippines	24 Oct. 1945
Peru	31 Oct. 1945	Portugal	14 Dec. 1955
Poland	24 Oct. 1945	Romania	14 Dec. 1955
Qatar	21 Sep. 1971	Rwanda	18 Sep. 1962
Russian Federation	24 Oct. 1945[1]	Samoa	15 Dec. 1976
San Marino	2 Mar. 1992	Sao Tome and Principe	16 Sep. 1975
Saudi Arabia	24 Oct. 1945	Seychelles	21 Sep. 1976
Senegal	28 Sep. 1960	Singapore	21 Sep. 1965
Sierra Leone	27 Sep. 1961	Slovenia	22 May 1992[2]
Slovakia	19 Jan. 1993[3]	Somalia	20 Sep. 1960
Solomon Islands	19 Sep. 1978	South Africa	7 Nov. 1945

Spain	14	Dec.	1955	Sri Lanka	14 Dec. 1955
St. Kitts and Nevis	23	Sep.	1983	St. Vincent and the Grenadines	16 Sep. 1980
St. Lucia	18	Sep.	1979	Sudan	12 Nov. 1956
Suriname	4	Dec.	1975	Swaziland	24 Sep. 1968
Sweden	19	Nov.	1946	Syrian Arab Republic	24 Oct. 1945
Tadjikistan	2	Mar.	1992[1]	Thailand	16 Dec. 1946
Tanzania, United Republic of	14	Dec.	1961	Togo	20 Sep. 1960
Trinidad and Tobago	18	Sep.	1962	Tunisia	12 Nov. 1956
Turkmenistan	2	Mar.	1992[1]	Turkey	24 Oct. 1945
Ukraine	24	Oct.	1945[1]	Uganda	25 Oct. 1962
United Arab Emirates	9	Dec.	1971	United Kingdom	24 Oct. 1945
Uzbekistan	2	Mar.	1992[1]	United States	24 Oct. 1945
Venezuela	15	Nov.	1945	Uruguay	18 Dec. 1945
Yemen	30	Sep.	1947[5]	Vanuatu	15 Sep. 1981
Zambia	1	Dec.	1964	Viet Nam	20 Sep. 1977
				Zaire	20 Sep. 1960
				Zimbabwe	25 Aug. 1980

Notes:

[1] Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldavia, Russian Federation, Tadjikistan, Turkmenistan, Ukraine, and Uzbekistan were once the single nation of Union of Soviet Socialist Republics (U.S.S.R.) which was admitted to the United Nations on 24 October 1945. The Byelorussian and Ukrainian Soviet Socialist Republics also had independent memberships in the United Nations. The U.S.S.R.'s membership in the Security Council and all other United Nations organs has been continued by the Russian Federation since 24 December 1991.

[2] Croatia, Slovenia, Bosnia and Herzegovina, and Macedonia are former republics of the single nation Yugoslavia which was admitted to the United Nations on 24 October 1945 and expelled on 22 September 1992.

[3] The Czech Republic and Slovakia were once the single nation of Czechoslovakia which was admitted to the United Nations on 24 October 1945.

[4] The Federal Republic of Germany and the German Democratic Republic were both admitted to the United Nations on 18 September 1973. Effective from 3 October 1990, the two German States have united to form one sovereign State.

[5] Yemen was admitted to the United Nations on 30 September 1947 and Democratic Yemen on 14 December 1967. On 22 May 1990, the two countries merged and have since been represented as on Member with the name "Yemen".

APPENDIX B

ABBREVIATIONS FOR INTERNATIONAL ORGANIZATIONS, AGENCIES, MISSIONS, AND GROUPS

ADF	Arab Deterrent Force
FAO	Food and Agriculture Organization
GATT	General Agreement on Tariffs and Trade
Habitat	see United Nations Center for Human Settlements (UNCHS)
IAEA	International Atomic Energy Agency
IBRD	International Bank for Reconstruction and Development
ICAO	International Civil Aviation Organization
ICJ	International Court of Justice
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
ILO	International Labor Organization
IMCO	Intergovernmental Maritime Consultative Organization; see International Maritime Organization (IMO)
IMF	International Monetary Fund
IMO	International Maritime Organization
INSTRAW	International Research and Training Institute for the Advancement Women
ITC	International Trade Center
ITU	International Telecommunication Union
MINURSO	United Nations Mission for the Referendum in Western Sahara
MNF	Multi-National Force in Lebanon
NATO	North Atlantic Treaty Organization
CNUCA	United Nations Observer Group in Central America (also known as UNUCA)
ONUSAL	United Nations Observer Mission in El Salvador
ONUVEN	United Nations Observer Mission for the Verification of the Elections in Nicaragua
UN	United Nations
UNAVEM	United Nations Angola Verification Mission

UNCHS	United National Center for Human Settlements (also known as Habitat)
UNCTAD	United Nations Conference on Trade and Development
UNDOF	United Nations Disengagement Observer Force
UNDCP	United Nations International Drug Control Program
UNDP	United Nations Development Program
UNDRO	United Nations Disaster Relief Office
UNEF	United Nations Emergency Force
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFICYP	United Nations Force in Cyprus
UNFPA	United Nations Fund for Population Activities; see UN Population Fund (UNFPA)
UNGOMAP	United Nations Good Offices Mission in Afghanistan and Pakistan
UNHCR	United Nations Office of the High Commissioner for Refugees
UNICEF	United Nations International Children's Emergency Fund; see United Nations Children's Fund (UNICEF)
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNIFIL	United Nations Interim Force in Lebanon
UNIIMOG	United Nations Iran-Iraq Military Observer Group
UNIKOM	United Nations Iraq-Kuwait Observation Mission
UNITAR	United Nations Institute for Training and Research
UNMOGIP	United Nations Military Observer Group in India and Pakistan
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
UNTSO	United Nations Truce Supervision Organization
UNU	United Nations University
UNUCA	United Nations Observer Group in Central America (also known as ONUCA)
UNV	United Nations Volunteers (also known as UNVol)
UNVol	United Nations Volunteers (also known as UNV)
UPU	Universal Postal Union
WFC	World Food Council
WFP	World Food Program
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WMO	World Meteorological Organization
WP	Warsaw Pact (members met 1 July 1991 to dissolve the alliance)

APPENDIX C

PERFORMANCE OF THE LOGIT MODELS FROM CHAPTER 4 UNDER THE MAXIMUM PROBABILITY RULE

	Predicted < 0.5	Predicted > 0.5
	Members model with no *de facto* members	
Actual = 0	27	14
Actual = 1	8	89
	Joiners model with no *de facto* members	
Actual = 0	30	11
Actual = 1	8	61

Members model with no *de facto* members:

Concordant = 84.06% Discordant = 15.94%

Joiners model with no *de facto* members:

Concordant = 82.73% Discordant = 17.27%

Note: Concordant observations have predicted outcomes under the maximum probability rule that are correct, and discordant observations have predicted outcomes that are incorrect.

APPENDIX D

DATA SOURCES AND DESCRIPTIVE STATISTICS FOR CHAPTER 4

TAXES ON INTERNATIONAL TRADE AND TRANSACTIONS -- *Government Finance Statistics Yearbook*, International Monetary Fund, Washington, D.C.: 1991.

LITERACY, OPEC, and LABOR FORCE IN AGRICULTURE -- *The World Almanac and Book of Facts*, Pharos Books, New York, N.Y.: 1991.

DEMOCRACY, REPUBLIC, ARABLE LAND, GDP, PERCENT UNION, INFANT MORTALITY, trade figures for TRADE SECTOR SHARE OF GDP, BAL. OF TRADE SHARE OF GDP, and SHARE OF WORLD TRADE, and independence dates used in INDEPENDENCE AFTER 1947 -- *The World Factbook*, Central Intelligence Agency, Washington, D.C.: 1990.

Dates of accession to GATT, LDC, DEVELOPING -- *GATT Activities*, GATT, 1989.

If possible, missing labor force characteristics in the above sources were filled with data from:

World Statistics in Brief, United Nations, 1990.

UNESCO Statistical Yearbook, UNESCO, 1990.

Yearbook of Labor Statistics, International Labor Office, 1991.

Variable	Mean of all nations	Mean without de facto members
DEMOCRACY	0.33133	0.32609
REPUBLIC	0.41566	0.43478
OPEC	0.078313	0.072464
LITERACY	66.307	67.283
INFANT MORTALITY	57.736	57.511
LABOR FORCE IN AGRICULTURE	41.33	40.969
ARABLE LAND	14.795	16.326
BAL. OF TRADE SHARE OF GDP	-9.4578	-7.94
TRADE SECTOR SHARE OF GDP	61.801	59.535
SHARE OF WORLD TRADE	0.60241	0.71593
PERCENT UNION	28.418	30.472
GDP	115.46	135.95

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BIOGRAPHICAL SKETCH

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