Trade Negotiations in Historical Perspective

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Abstract

This paper focuses on the liberal trade regimes. We argue that the enforcement problems are among the main obstacles these regimes have to overcome. Repeated nature of the interaction among countries can overcome unilateral incentives to deviate; however, coalitional deviations can not be deterred in the presence of discriminatory tariffs (which impose negative externalities through trade diversion.) We argue that the Most Favored Nation clauses (MFN) can overcome these problems, in both bilateral and multilateral bargaining frameworks and lead to Pareto Superior outcomes for all parties. Then the crucial issue becomes to sustain commitment to this rule which has been historically provided by the dominant economic powers. However, this commitment, established through political reputation mechanisms, should be seen as a payo® maximizing rational strategy, not a provision of public good. We provide historical evidence from three periods (19th century bilateral network of treaties, trade wars of the interwar era and the GATT regime), to support above arguments.

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1 Introduction

Despite the extensive theoretical and empirical demonstrations pointing out their welfare benefits, liberal trade regimes among countries have been the exception rather than the norm in history. Starting with the mercantilist motivations in the pre-19th century era, most governments tried to impose restrictions on the flow of goods across their borders. Even during periods of relatively free trade, governments proved themselves to be quite ingenious in devising subtle mechanisms of protection. Regardless of their real motivations, the final consequence of these protectionist policies has been lower global and domestic welfare. Thus, in almost every theoretical and practical circumstance involving trade barriers, it is possible to find an alternative set of policies that will benefit every country through mutual liberalization. Given this, the next question naturally becomes what factors promote (or hinder) the establishment of these Pareto superior regimes.

This paper will be concerned with one of these factors, namely the institutional features of liberal trade regimes. Establishment of mutually beneficial trade regimes will heavily depend on the rules of the institutional framework in which they are negotiated and maintained. Liberal trade institutions need to overcome certain commitment problems and be capable of adapting to changes in the underlying economic environment to succeed and survive.

The commitment problem arises in the following context. An individual country often finds it in her interest to establish a more liberal trading relationship with her partners where each side mutually lowers their barriers to obtain Pareto superior outcomes. However, her trading partners can act opportunistically afterwards and renege on their promises either individually or as a group. They can form new trading blocs with each other or outside parties which would yield an even lower payo®(due to trade diversion) to the rst country compared to the pre-agreement levels. With the anticipation of this action ex post, no country will ever enter a liberal regime ex ante and efficient outcomes will be missed. These concerns over trading arrangements are still valid today and are reflected in the remarks of government o±cials worried over increasing number of exclusionary regional blocks and
bilateral treaties in Europe and America. These types of commitment problems arise from
the fact that there is no "world" court to punish deviators from an agreement and those
agreements need to be self-enforcing.

Finally, a trade regime needs to be "flexible under changing economic conditions. An
international agreement is an incomplete contract where it is impossible to specify actions
for signatories under all contingencies. An unanticipated shift in the underlying economic
parameters and payoffs might render a current agreement inefficient and create incentives
for a country to withdraw and lead to the collapse of a carefully crafted regime. Given this
possibility, an agreement needs to include provisions to handle these circumstances.\footnote{1}

The aim of this paper is to show how the liberal trade regimes in the past attempted
to deal with these problems and how their inability to solve them led to their demise. An
analytical model that captures the main features of international trade relationships
will be presented and it will be supplemented with historical evidence. Specifically, we
will be looking at the network of bilateral trade agreements of the late 19th century and
the current multilateral system based upon the General Agreement on Tariffs and Trade
(GATT) and governed by the World Trade Organization (WTO) as successful examples of
trade liberalization. On the other hand, the interwar period is a classical example of failed
multilateral and bilateral attempts and it was "nally shaped by discriminatory regional blocs
which were partly blamed for worsening of the economic problems of that era.

The main point in this paper is that the success of a trading regime depends on the rules of
the framework governing it. Among these, the most important one is the non-discrimination
rule which is often referred to as the Most Favored Nation (MFN) clause in trade treaties.
This rule simply says that an importing country can not discriminate among her trading
partners and is required to apply the same treatment to their products. The presence of
this clause is the common thread among the successful trade regimes and its absence is one
of the main reasons behind failed bilateral or multilateral efforts. The other important rule

\footnote{1} In some sense, if we were to borrow parallel analogies from game theory, a trade agreement needs to
"coalition-proof" to solve the commitment problem and "renegotiation-proof" to solve the "flexibility problem.
we will focus on relates to how the established regimes handle unexpected events. There is less conformity between regimes in this regard. In bilateral regimes the practice was to renegotiate existing treaties while in GATT, temporary exemptions from commitments served this purpose. This is most likely due to the costs of renegotiation which are expected to be lower in the bilateral case.

The establishment and the sustainability of the MFN rule in trade regimes were not accidental. Although its presence provides Pareto superior outcomes for every country, each one will have the incentive to deviate if she expects others to cheat as well. This problem is especially acute if the regime is maintained through bilateral treaties where formation of coalitions are relatively easier. The presence of a dominant economic powers comes into play at this point. Britain and France in 19th century and the United States after the WWII were committed to the MFN principle so that they reinforced the expectations about its strength among other smaller countries. The lack of expectations that the major economic powers will adhere to the MFN rule contributed to the failure of all liberalization efforts during the 1930s. The commitment to MFN was established through political credibility of these countries. We should note that this commitment should not be seen as the provision of a public good by a hegemon, which is the general claim by many authors (see Olson [1991]), but as rational pursuing of self interest.

Finally, this paper hopefully will shed some light into the discussion over the relative merits of bilateral, regional and multilateral approaches to trade liberalization. The slowdown in the multilateral approach to liberalization and increases in the regional and bilateral negotiations created widespread concern about the future of our trading system among economists and policymakers. However, this paper points out that the main concern should be whether trade concessions are extended without discrimination rather than how they are obtained.

During the rest of the paper, we will try to accomplish the following: the next section provides a historical background in more detail. Section 3 presents the general framework in a three country model and looks at the outcomes under discriminatory regimes with bilateral
and multilateral negotiations. Next sections analyzes the benefits of non-discrimination requirement in terms of efficiency. Conclusions follow.

2 Historical Overview

During the 17th and 18th centuries, trade with their colonies was more important for most European countries compared to intra-European trade which led to the trading regime in Europe being dominated by mercantilist policies. The few existing bilateral trade agreements were discriminatory in nature. These preferential arrangements aimed at trade diversion from third parties to the contracting countries and were poorly perceived by the economists of the time (Irwin [1991]).

The loss of the North American and other colonies in the second half of 18th century led France and Britain to open negotiations and explore bilateral options. The Anglo-French bilateral agreement in 1783 was limited in nature and it aimed at elimination of some of the prohibitions and reduction of certain tariffs. The result of this treaty and other British negotiations involving Portugal, Spain and Prussia were failures. Discouraged by these and influenced by the French revolution and the Napoleonic wars, Britain stopped the liberalization efforts for half a century. The steep fall in agricultural prices and the demand for import protection for agriculture from landowners led to the passage of the Protectionist Corn Laws in 1815. Nevertheless, the government was well aware of the importance of foreign markets and during the 1830s and 1840s, Britain again tried to open foreign markets through preferential bilateral deals with countries like Prussia and Portugal. These efforts did not bear any real fruits and frustrated with the lack of progress, Britain repealed the Corn Laws in 1846 and unilaterally adopted non-discriminatory free trade policies that lasted until the beginning of the World War I. However, the British hopes that other countries would see the benefits of free trade and follow the same path did not materialize.2

2The intellectual foundations for the arguments in favor of free debate were established during this
France was a high-tari® country in 1815 when the pressures for liberalization started to show up. During the 1830s and the 1840s there were several unilateral reductions on the duties for raw inputs such as iron ore. Also, certain agricultural export interests (wine, silk, butter) supported the free trade movement. (Kindleberger [1975]) Around the same time in the 1rst half of 19th century, other countries in Europe (Prussia, Spain, Denmark, Portugal, Norway, Sweden) started to feel the pressures for liberalization; although they were based on different sources. Lowering of the trade barriers between the smaller states that formed Germany and Italy had added momentum to the liberalization e@orts. Kindleberger [1975] explains the strengthening of free trade powers during this period in detail. There were attempts mainly through bilateral and discriminatory arrangements, but all of these treaties were short lived and caused resentment among other countries who were discriminated against

Finally, in 1860, France and Britain agreed to sign a commercial treaty which capped most duties at 25% and abolished all prohibitions. Most tari®s were set around 15% and the treaty was to be renewed every ten years. At the time, the French parliament was aligned with the import-competing producers who opposed any sort of trade agreement. Through his authority to sign bilateral treaties without parliamentary approval, Napoleon managed to implement the tari® changes. The most unique aspect of this treaty was its Article 5 which was essentially an unconditional MFN clause. Both countries agreed to grant to each other any favor they would extend to third parties. Since Britain had granted free access to her markets for most products before, this was a greater economic commitment for France (Nye [1991] and Kindleberger[1975]). We should note that this treaty was based on political motivations as much as economic ones. Napoleon wanted to keep Britain neutral while he

period by Adam Smith and Ricardo. The debates over the Corn Laws provide important lessons in history of economic thought and political economy.

3Interestingly enough, after World War 2, the US president used an executive power to sign the GATT. The Congress did not approve the creation of International Trade Organization (which would be the equivalent of the IMF for world trade) due to its reluctance to make such a big commitment, GATT would not come into existence without this power enjoyed by the president.
tried to oppose the Austrian rule in Italy by force in the early 1860s. Britain was interested in establishing "merit ties with continental Europe as she realized her future depended more on Europe rather than the colonies and wanted a chance to "export" her free trade policies.

The effect of this treaty on the European trade system was remarkable. Other countries sought treaties with France to guarantee equal treatment with the British goods resulting in a series of bilateral trade treaties all which included an MFN clause. By 1866, Belgium, Germany, Italy, Austria, Spain, the Netherlands, Sweden, Norway had signed treaties that lowered their tariffs to the 8-15% range (Irwin [1991, p.97]).

Tari® disputes began to arise in the 1870s after a decrease in agricultural prices due to the cheap American grain. In the 1880s, renewals of the expiring treaties involved lengthy negotiations and temporary tari® wars erupted between France and Italy, Germany and Russia, France and Switzerland (Irwin, [1991, p.101]). Bargaining for tari®s became more contentious and the low tari® equilibrium started to deteriorate with greater levels of protection implemented in each round of renewals. The regime ended with the outbreak of World War I.

During the war, prohibitions, controls and various restrictions on the flow of goods were enacted. At the Allied Economic Conference of 1916, Britain and France let the other countries know that the post-war order would not be the same; especially the MFN treatment would not be extended to Germany and her allies (Irwin [1991, p.104] and Kindleberger [1975]). The Covenant of the League of Nations allowed trade controls due to special necessities of recovery and did not include the "equality in trade" principle of the Wilson's famous Fourteen Points.

The economic chaos of the early 1920s and the rebuilding efforts did not provide the ideal environment for a new liberal regime. There was no consensus for liberalization efforts and state intervention into every dimension of the domestic economy continued in most countries. Although some war-time prohibitions were eliminated, even higher tari®s took their place. In the late 1920, several international conferences were organized to create some
momentum for trade liberalization. Despite their repeated declarations of commitment to a liberal trade regime, none of the major powers adopted the recommendations of these conferences and a new comprehensive regime was never implemented. Nevertheless, in 1927 France and Germany signed a minor treaty with an MFN clause covering several products and by 1928 there were forty such treaties although none of them were extensive.

In 1929, there was another sharp decline in agricultural prices. This prompted some tariff hikes in Germany, France and Italy. The Smoot-Hawley tariffs of 1930 in the US resulted in another series of increases. The Great Depression struck the final blow to the trading system with all tariffs rising rapidly. Quotas, prohibitions, exchange controls, regional agreements and other discriminatory arrangements were instituted to give total control of trade to the governments (Irwin [1991]). During this period, there were numerous multilateral conferences held to stop the collapse of the world trading system, but all of these attempts failed.

Some countries, led by France, Belgium and the Netherlands, stuck to the gold standard and had to establish quantitative restrictions to stop outflow of gold since their currency was severely overvalued. Britain, Sweden, Norway and other sterling-bloc countries let their currency depreciate and decrease demand for imports. Central and Eastern European countries (such as Germany, Austria, Italy, Hungary) regulated foreign exchange transactions. These currency restrictions led to "barter" arrangements which were worse than the creation of trading blocs. Initial efforts for liberalization appeared in the mid-1930s, led by Britain and the US, after the worst part of the depression was over. The US lowered its tariffs around 20% through 20 bilateral MFN treaties with minor trading partners. However, by that time, the political foundation of Europe had begun to collapse and the war had arrived.

The post-World War II regime was founded upon the GATT which was based on the ideas presented at the Breton-Woods conference. The backbone of this multilateral treaty was again the unconditional MFN clause. During each round of GATT negotiation, each country would present a list of tariff levels she will implement towards the exports of all contracting countries. Then the countries begin to negotiate, with the "nal agreement determining the
tari® rates and other trade policies to be implemented until the next round of meetings. Through the eight GATT rounds, the number of member countries increased from 23 to 128 with the average tari®s on industrial products decreasing from 45% to 5% (Staiger [1995]). During the last fifty years, GATT has evolved into a trading system with complex and intricate legal rules regarding many aspects of trade policies such as the treatment of customs unions, dispute settlement procedures, agricultural policies and role of competition and environmental policies as protectionist measures. In the final Uruguay round, member countries agreed to the creation of the World Trade Organization (WTO) which would oversee international trade with equal stature as the World Bank and the IMF.

Despite this success, the GATT has faced many problems in the past and many others remain to be resolved. Each round of negotiations takes many years to complete - Uruguay round was completed in eight years - and is concluded with more complicated agreements. There are increasing debates over intellectual property rights, agricultural policies and trade in services. The dispute settlement system has yet to handle a serious conflict between members while Russia and China are be integrated into the system. Above all, the GATT/WTO system never faced a global economic crises comparable to the Great Depression. Given that we are already facing increased regionalism and creative methods of protectionism, there are worries about how well the multilateral trading regime would withstand such an economic shock.

Liberal trading regimes are hard to create and maintain as the three mentioned periods can prove. Nevertheless, lower trade barriers are crucial for economic efficiency and development. In the next sections, we will show the strengths and weaknesses of regimes based on bilateral and multilateral agreements through an analytical model and historical evidence.
3 Model

The setting is extremely stylistic, but captures the main points of trade negotiations between a group of countries. We will consider a complete and perfect information environment with three countries that are denoted with the capital letters $A; B; C$ and there will be three goods $f; a; b; c$. Good $a$ is imported by country $A$ from the other two countries and respective trading patterns hold for the other two goods. We will let $\hat{\tau}_{ij}$ (where $i \neq j$ and $i;j \in \{f; a; b; c\}$) denote the tariff imposed by $I$ on the imports of good $i$ from $J$. We will also assume the availability of an efficient transfer mechanism between the countries where $!_{ij}$ denotes the net transfer from $I$ to $J$. Although we rarely see efficient transfers between countries, the existence of such a mechanism will make analysis much clearer. One of the reasons that countries negotiate over their respective tariff levels is the absence of such efficient transfers. Otherwise, they would simply set the tariffs to zero (where presumably joint welfare is maximized) and share the surplus through transfers. We will see shortly that the availability of such mechanisms do not overcome the commitment problems inherent in these bargaining settings. The payoffs for the governments are given by

$$W_A(\hat{\tau}; !) = U_{Aa}(\hat{\tau}_{ab}; \hat{\tau}_{ac}) + U_{Ab}(\hat{\tau}_{ba}; \hat{\tau}_{bc}) + U_{Ac}(\hat{\tau}_{ca}; \hat{\tau}_{cb}) + !_{ab} + !_{ac} \quad (1)$$

$$W_B(\hat{\tau}; !) = U_{Ba}(\hat{\tau}_{ab}; \hat{\tau}_{ac}) + U_{Bb}(\hat{\tau}_{ba}; \hat{\tau}_{bc}) + U_{Bc}(\hat{\tau}_{ca}; \hat{\tau}_{cb}) + !_{ab} + !_{bc}$$

$$W_C(\hat{\tau}; !) = U_{Ca}(\hat{\tau}_{ab}; \hat{\tau}_{ac}) + U_{Cb}(\hat{\tau}_{ba}; \hat{\tau}_{bc}) + U_{Cc}(\hat{\tau}_{ca}; \hat{\tau}_{cb}) + !_{ac} + !_{bc}$$

where $f_{ij} \in [0; 1]$: Function $U_{ij} (\cdot; \cdot)$ refers to $I$'s payoff from sector $j$ and $(\hat{\tau}; !)$ are the tariff and transfer vectors. For simplicity, we will assume that the export payoff functions $(U_{Aa}; U_{Bb}; U_{Cc})$ are identical to each other and symmetric in their parameters. The import payoff functions will be identical in terms of the tariffs faced by the country's product and the competitor's product.

We refer to these functions as governments' objective functions rather than domestic welfare functions since we want to include the political-economy forces in the decision making process. Krugman [1991] refers to the observed motivations of the governments in trade
negotiations as "enlightened mercantilism" whose principles are (1) exports are good, (2) imports are bad and (3) other things equal, an equal increase in imports and exports are good. Furthermore, even the language of the GATT calls tariff reductions as "concessions" and that "they need to be" compensated with reciprocal "concessions" from trading partners. Furthermore, in a series of papers Grossman and Helpman [1994, 1995] provide a political economy framework where such an objective function can arise in equilibrium through the interaction of lobby groups and government. The literature on the sources of government incentives that do not necessarily maximize domestic welfare is extensive and the task is beyond the scope of the paper. We will simply take that behavior as given and use the words country and government interchangeably. (See Rodrik [1995] for an extensive survey.)

We will assume that the optimal unilateral policies are given by $\zeta^U = (\zeta_{ab}^U, \zeta_{ac}^U, \zeta_{ba}^U, \zeta_{bc}^U, \zeta_{ca}^U, \zeta_{cb}^U)$ and $\zeta^I = 0$ whereas socially optimal tariffs (maximizing joint payoffs of the governments) are denoted by the vector $\zeta^S$. The payoff functions will have the following properties:

$$\frac{\partial U_{ij}}{\partial \tau_{ij}} > 0; \frac{\partial U_{ij}}{\partial \tau_{ji}} < 0; \frac{\partial U_{ij}}{\partial \tau_{jk}} > 0 \text{ for } i \neq j \neq k \text{ and } i; j; k \in \{a, b, c\}$$

so that the interests of the exporters and the importers are opposing each other and, therefore, a mutual lowering of their respective tariffs will provide Pareto gains for both. Furthermore, the interests of the two exporters of the same good are also opposed since a lower tariff for country 1 creates higher demand for her export and improves her welfare at the expense of the other exporter: The possibility of such externalities imposed on third parties who is not part of a treaty is the main reason behind most of the results in this paper. The crucial question is how the lowering is negotiated. The next sections address the several alternative frameworks.

3.1 Bilateral Negotiations

Throughout this section, we will assume that countries have already established unilaterally optimal tariffs at the beginning of the game. Since, these rates are not Pareto efficient,
governments have incentives to negotiate and mutually lower them. The negotiations are handled through bilateral treaties. At the end of period $t$, country A is matched with B (if $t$ is divisible by three). The two countries first decide to negotiate or not. If they negotiate, they determine tentative tariff rates and a transfer for period $t+1$. These agreements are made public so that C knows the deal made between A and B. If one of them refuses to negotiate, then no treaty is signed. At the beginning of $t+1$, A and B decide to implement the tariffs decided earlier in the treaty or new ones (such as the unilaterally optimal ones) and the transfers are paid. The tariff rates implemented in period $t$ are given by the vector $\xi^t$ and the associated payoffs are $W_A^t; W_B^t; W_C^t g = f(W_A^t; W_B^t; W_C^t)$. At the end of period $t+1$, C is matched with A (B) and the above process is repeated.

We will not make any specific assumptions about the actual bargaining game played between two countries in any given period. We will simply assume that the negotiations take place behind closed doors (in some high security government building) and the outsiders only observe the outcomes. We will only impose the requirement that the outcome of the negotiations between two countries are Pareto efficient in the sense that no further gains are available to either party without hurting the other one. In this case, it is equivalent to stating that A and B, for example, choose $(\xi_{ab}; \xi_{ac}; \xi_{ba}; \xi_{bc})$ so that they maximize their joint payoff. These tariffs will be denoted by $i^{AB}; \xi_{AB}^t; \xi_{ab}^t; \xi_{ac}^t; \xi_{ba}^t; \xi_{bc}^t$ where

$$i^{AB}; \xi_{ab}^t; \xi_{ac}^t; \xi_{ba}^t; \xi_{bc}^t = \arg\max_{(i^{AB}; \xi_{ab}^t; \xi_{ac}^t; \xi_{ba}^t; \xi_{bc}^t)} W_A (\xi) + W_B (\xi)$$

If the game was played only once where A and B negotiated, then they would simply implement the above tariffs and solve the rest of the bargaining problem through the direct transfer mechanism. Given this, C would simply set her tariffs to the unilaterally optimal levels. We will let the tariff levels of a period characterized by a treaty (or collusion) between A and B be given by $\xi^{AB} = i^{AB}; \xi_{ab}^t; \xi_{ac}^t; \xi_{ba}^t; \xi_{bc}^t$. Similar vectors will be defined for periods where A and C or B and C collude at the expense of the country left outside.

From the definitions of the payoff functions in (2), we can derive the following:

$$\xi_{ab}^{AC} > \xi_{ab}^u = \xi_{ab}^{BC} > \xi_{ab}^s > \xi_{ab}^{AB}$$ (3)
B will receive the best treatment (lowest $\zeta_{ab}$) from A when they collude and receive the worst when he is left out. Socially optimal tariff is lower than unilateral level but higher than collusive level. Similar relationships will hold for all the other tariff rates. Given the above relationships between the tariff rates in (3), we will have the following for the payoffs excluding the transfers:

$$U_A^{AB} = U_A^{AC} > U_A^S > U_A^U > U_A^{BC}$$

where $U_A = U_Aa(\cdot; \cdot) + U_Ab(\cdot; \cdot) + U_Ac(\cdot; \cdot)$ as defined in (1). Again similar properties will hold for the other countries.

The game continues indefinitely and the total payoff for a country is the sum of the discounted present values of per-period payoffs. The common discount factor is $\beta$ and our aim is to find the equilibria of this repeated game. The equilibrium of the stage game where the countries impose $\zeta^u$ is also an equilibrium of the repeated game as well. The question is whether if it is possible for them to improve upon this outcome. The following lemma establishes the existence of strategies which lead to better outcomes for only a subset of the countries and deter unilateral deviations.

Lemma 1: For all $\beta > \beta^u$ (where $\beta^u = \frac{(U_{AA} + U_{A}^{AB} + U_{B}^{AB})}{(U_{A}^{BB} + U_{B}^{AB} + U_{C}^{AB})}$); the following strategy forms a subgame perfect equilibrium: Country A signs a treaty to implement $\zeta^{AB}$ with country B in their respective negotiation periods, and they agree to a net transfer amount $\delta_{ab}$. In other periods, A and B refuse to negotiate with C and they only implement $\zeta^{AB}$ in every period while C implements the unilaterally optimal tariff. The net transfer is $\delta_{ab}$ between A and B but it is zero with C: If A (B) deviates, then B (A) reverts to her unilaterally optimal strategy.

Proof: To show that these strategies form a subgame perfect equilibrium, we need to show that one stage deviations do not increase the welfare for any of the countries. The per period payoffs if everybody were to follow these strategies are $W_A = U_A^{AB} + \delta_{ab}; W_B = U_B^{AB} + \delta_{ab}; W_Y = U_C^{AB}$: Country C will get the same payoff along the equilibrium path and
his actions will not change his outcome, so he has no incentive to deviate. The gain to 
A from deviating is \( U^u_A - U^A_A \) and the payo® after that is \( U^u_A \). It is optimal for A not to 
deviate if \( \pm > i U^u_A i U^A_A \). The one period gain to B is \( U^u_B - U^B_B \) and 
the payo® after that is \( U^u_B \). It is optimal for A not to 
deviate if \( \pm > i U^u_B i U^B_B \). These two conditions imply 
\[
\pm i U^A_{AB} i U^B_{AB} > i U^u_A i U^u_B \]
This will be not true for all values of \( \pm \) only when 
\[
U^u_A + U^u_B + U^u_C + U^B_B > U^A_A + U^B_B + U^A_B + U^B_B
\]
Since \( \xi^A_B \) maximizes their joint payo®, we have \( U^A_A + U^B_B > U^u_A + U^u_B \). This implies that 
for all \( \pm > \bar{\epsilon} \) where \( \bar{\epsilon} = \frac{U^u_A + U^u_C - U^A_{AB} - U^B_{AB}}{U^u_A + U^u_B} \); such \( !_{ab} \) and therefore an equilibrium in the 
above strategies will exist.

A corollary of the above lemma is that we can construct similar collusive strategies 
between A and C or B and C. The repeated nature of the game allows the countries (at 
least A and B) to obtain higher payo®s compared to the single period game. The threat of 
punishment in the future periods keeps the countries on the equilibrium path and prevents 
them from cheating unilaterally in the current period. The drawback is that this ef®cient 
equilibrium (from A’s and B’s perspective) is at the expense of C who is worse o® compared 
to the single stage game outcome. This threat to revert to the unilateral strategies (as the 
mechanism sustaining this equilibrium) has been emphasized in the literature quite often. 
(see Dixit [1987] and Staiger [1991]). Moreover, this threat is a legal part of many treaties 
(bilateral or multilateral). For example, Article 23 of GATT states that if a bene®t accruing 
to a country is nulli®ed or impaired by another contracting country as a result of failure to 
carry out an obligation," then the "rst country can suspend his concessions after consulting 
with other parties. As Dam [1970, p.79] points out, the essence of the GATT system 
lies not in the abstract legal relationships created by a tari® concession but rather in the 
enforcement mechanism ... consequence of nonperformance is thus the reestabishment ...
the preexisting situation (although the retaliatory suspension may be on items not originally negotiated with the offending contracting party)." In game theoretic terms, if a country reneges on a commitment, other countries punish her by increasing their tariffs to their original levels. Furthermore, according to Dam, "the best guarantee that a commitment of any kind will be kept ... is that the parties continue to view adherence to their agreement as in their mutual interest. ... retaliation, subjected to established procedures and kept within prescribed bounds, is made the heart of the GATT system."

The threat of punishment can be made more severe due to the structure of the game since countries can decide with whom to form a coalition and exploit this position to their advantage. The punishment imposed upon B (or A) will be more severe if A (or B) were to sign a treaty with C since $U_B^u > U_B^{AC}$ (or similarly $U_A^u > U_A^{BC}$). The following lemma shows how this new threat of forming a new coalition can sustain an equilibrium against unilateral deviations:

**Lemma 2** For $\pm > \pm^*= (\frac{(U_A^u + U_B^u + U_{AB}^u)}{(U_{AB}^u + U_{AC}^u + U_{BC}^u)});$ the following strategy forms a subgame perfect equilibrium: Country A signs a treaty to implement $\xi^{AB}$ with country B in their respective negotiation periods, and B agrees to a net transfer amount $!_{ab}$. In other periods, they refuse to negotiate with C and only implement $\xi^{AB}$ in every period while C implements the unilaterally optimal policies. The net transfer is $!_{ab}$ between A and B but it is zero with C: If A (B) deviates, then B (A) forms a parallel agreement with C including the implementation of $\xi^{BC}$ ($\xi^{AC}$) and a net transfer of $!_{bc}$ ($!_{ac}$) starting in the next period. As long as A and B do not deviate C implements the unilaterally optimal tariffs and transfers zero, otherwise she forms a collusion with the non-deviating party.

**Proof:** Following the same line of reasoning in the proof of the previous lemma, we can show that it is optimal for A not to deviate if $\pm > iU_A^u + iU_{AB}^u + iU_{AC}^u + iU_{BC}^u + !_{ab}$. Similar condition for B is $\pm > iU_B^u + iU_{AB}^u + iU_{BC}^u + !_{ab}$. The differences are due to the fact that during the punishment stages, the deviating country gets
payoffs from the collusion of the other two countries instead of the payoffs from unilateral strategies. These two conditions imply

\[
\frac{i \ U_{AB}^i \ i \ U_{AB}^C + U_{AC}^i \ i \ U_{AC}^C \ i \ U_{AA}^i \ i \ U_{AA}^C}{\pm \ i \ U_{AB}^i \ i \ U_{AB}^B + i \ U_{BA}^i \ i \ U_{BA}^B + U_{BC}^B + U_{BC}^C} > !_{ab} \quad \text{and} \\
\pm \ i \ U_{AB}^i \ i \ U_{AB}^B + i \ U_{BA}^i \ i \ U_{BA}^B + U_{BC}^B + U_{BC}^C < !_{ab}
\]

This will be not true for all values of ± only when

\[
U_{Aa}^u + U_{Ab}^{BC} + U_{Ac}^{BC} + U_{Ba}^u + U_{Bb}^u + U_{Bc}^u > U_{Aa}^{AB} + U_{Ab}^{AB} + U_{Ac}^u + U_{Ba}^u + U_{Bb}^u + U_{Bc}^u
\]

Since \( \xi^{AB} \) maximizes their joint payoff, we have \( U_{Aa}^{AB} + U_{Ab}^{AB} > U_{Aa}^{BC} + U_{Ab}^{BC} \). This implies that for all \( \pm > \pm_{\alpha} \) where \( \pm_{\alpha} = \frac{U_{Aa}^{AB} + U_{Ab}^{AB} + U_{Ac}^u + U_{Ba}^u + U_{Bb}^u + U_{Bc}^u}{U_{Aa}^u + U_{Ab}^{BC} + U_{Ac}^{BC} + U_{Ba}^u + U_{Bb}^u + U_{Bc}^u} \); such \( !_{ab} \) and therefore an equilibrium in the above strategies will exist. ¥¥¥

In this new equilibrium, we have more enforcement power since the punishment to the deviator is stronger. The sources of increased enforcement power are the externalities imposed on the country outside a treaty through trade diversionary effects. A country loses more in the punishment stages when the other one colludes compared to when they simply play their unilateral strategies. The increase in the enforcement power can be seen from the fact that \( \pm > \pm_{\alpha} \) thus for lower values of \( \pm \) equilibrium can be sustained between A and B.

Again we can construct similar equilibria between A and C or B and C.

In these types of settings, we also need to worry about the joint deviation of A (or B) with C against the other one. From the symmetry of the payoff functions, A (or B) is indifferent between partners since his payoff is the same in each period. On the other hand, the country outside the bilateral treaty, C, has all the incentive to convince A to break up the treaty and sign a new one with her instead. The next lemma presents outcome under coalitional deviations:

Lemma 3 No bilateral treaty between A and B can be sustained against a joint deviation by a member country and C.
Proof: The per-period payoffs for A and B from their bilateral treaty are $U_{A}^{AB} + i_{ab}$ and $U_{B}^{AB} + i_{ab}$ respectively, while C's payoff is $U_{C}^{AB}$: If A were to sign a treaty with C, their payoffs would be $U_{A}^{AC} + i_{ac}$ and $U_{C}^{AC} + i_{ac}$. To deter deviation by A with C, we need $U_{A}^{AB} + i_{ab} + U_{C}^{AB} > U_{A}^{AC} + U_{C}^{AC}$. Similar condition for B is $U_{B}^{AB} + i_{ab} + U_{C}^{AB} > U_{B}^{BC} + U_{C}^{BC}$. But we know that $U_{A}^{AB} + U_{C}^{AB} < U_{A}^{AC} + U_{C}^{AC}$ and $U_{B}^{AB} + U_{C}^{AB} < U_{B}^{BC} + U_{C}^{BC}$ by definition of optimal bilateral treaties. Thus the no-deviation conditions cannot be simultaneously satisfied for A and B. Since the most efficient (optimal) treaty cannot be sustained between A and B, no others can be sustained either.

This lemma is stating that the equilibria formed by bilateral treaties are not stable against deviations with outsiders. We can construct more interesting equilibria in the following sense: A and B agree to negotiate in period t; while A and C (or B and C) negotiate in period $t + 1$ (or $t + 2$). In each period, the negotiating governments agree to implement their jointly optimal tariffs for the next period (the treaties last only one period) while the outsider implements her unilateral policies. The net transfers are non-zero between the treaty partners while the outsider does not receive or pay a transfer. If any one of the countries deviate, the other two form a bilateral treaty every period after that.

As it is the case with almost all repeated games, we can construct almost infinite number of equilibria. The reason behind the above equilibrium is to show that the choice of equilibrium becomes unpredictable with discrimination. We can go even further and construct equilibria where a bilateral coalition lasts a random number of periods and a new one gets formed after that. We should also note that the punishment to sustain this equilibrium (compared to the cases in the first two lemmas) is the same, but the gain from not deviating is smaller because a country will be outside a treaty in every three periods. Therefore the discount factor required to sustain above equilibrium will be higher in this case, or simply we will have $b > \frac{\mu_{s}}{2}$. We will talk more about this issue in section 3.3.

These lemmas show that, on one hand, the availability of an outsider more than willing to join a treaty increases the enforcement power inside a treaty against unilateral deviation,
but on the other hand the stability of a treaty is endangered since the deviator can also sign a treaty with the outsider as well. This threat of coalitional deviations becomes more clear if one notices that, at any point in the game, given any tax vector, it is possible to find a new vector that will improve the welfare of two countries (at the expense of the third one) and therefore can get implemented. The availability of collusion with an outsider undermines any tax vector and makes collusion very difficult. Thus this game will not have any renegotiation-proof equilibria.

The events of the late 18th and early 19th centuries resemble the non-stable equilibrium we described above. The major economic power of the era was Britain who sought bilateral treaties with her main trading partners. The Vergennes Treaty in 1786 with France was one of the first examples. Later on, France publicly complained that they felt cheated since similar concessions were given to other countries after that and the treaty lasted only six years. The interesting fact is that Britain had previously signed a treaty providing preference to Portuguese wine, and Portugal made the same accusations against Britain after the Vergennes treaty (Nye [1995]). Other negotiations between Britain and her other major trading partners such as Portugal, Spain, Prussia were either never fully resolved or short lived. During the 1820s Britain sought other tax reductions but maintained high taxes on sugar, coffee and wine for bargaining purposes (Irwin[1991]) and offered discriminatory treatment for their imports but no country accepted. In 1836, the negotiations for lower taxes on British textiles in return for lower taxes on Prussian timber were rejected by Prussia because of the non-credibility of the promise. The Prussian officials were worried that the same terms would be extended to Russia and make the initial deal worthless to Prussia. W.E. Gladstone, future British Prime Minister, recalls the 1830s and 1840s as \\
periods of active negotiations with European countries for reciprocal reductions in taxes, but in every case Britain failed. The tendency among the other countries was to meet the British efforts with distrust and suspicion." (Irwin [1991]). All these countries were exporters of raw materials and importers of British machinery and textiles. They were reluctant to lower their taxes for the fear of British cheating on their promises of lower taxes and signing
similar deals with their neighbors thus eliminating the original benefits to them.

The perception that the discriminatory tariffs are synonymous with bilateral negotiations is only partially true. Countries often seek such arrangements in multilateral settings and there is actually no guarantee that non-discrimination actually is Pareto efficient. It is quite possible that the tariff vector that maximizes the joint welfare of the countries calls for different tariff rates on the same commodities. Especially, in our model one would actually expect such treaties to appear as the equilibrium outcome of multilateral trade negotiations since the total surplus can be divided through the transfer mechanisms. Next section analyses this issue.

3.2 Multilateral negotiations

We will define the multilateral negotiations in the following sense. All countries meet at the end of time $t$ and jointly agree on a tariff and a transfer vector. At the beginning of $t + 1$, each one decides to implement the tariffs decided earlier in the treaty or new ones (such as the unilaterally optimal ones) and then the other countries implement their transfers. The tariff rates for period $t$ are given by the vector $\xi^t$ and the associated payoffs are $f W^t_A; W^t_B; W^t_C = f W_A (\xi^t); W_B (\xi^t); W_C (\xi^t) g$.

The tariff rates chosen in a multilateral negotiation will be the socially optimal ones ($\xi^s$) and distributional (bargaining) issues will be handled through the efficient transfers. As in the previous chapter, we will see that unilateral deviations from the socially optimal tariffs can be deterred through a simple mechanism.

Lemma 4 For $\pm > \pm^{max}$ (where $\pm^{max} = \frac{\left( I \ Z_{Aa} \ Z_{Bb} \ Z_{Cc} \right)}{(Z_{Ab} + Z_{Ac} + Z_{Ba} + Z_{Bc} + Z_{Ca} + Z_{Cb})}$; $Z_{ij} = U^s_{ij} - U^u_{ij}$), the following strategies form a subgame perfect equilibrium: Countries negotiate to implement the socially optimal tariffs $\xi^s$ and the transfer vector $! = (!_{ab};!_{ac};!_{bc})$ in every period. If a country cheats in period $t$, everybody reverts to playing the unilaterally optimal strategies and transfers are set to zero after that.
Proof: The method is identical to the previous proofs. We show that it is not optimal for a country to deviate unilaterally. We derive three conditions that need to be satisfied by the transfer vector and sum them up to derive the above condition on 

Through the threats to revert to lower unilateral payoffs, the socially optimal tariffs can be sustained in equilibrium. Furthermore, we can derive a result parallel to Lemma 2 that shows the increased efficiency through the threats of coalitional punishments. However, no threat is strong enough to deter coalitional deviations where two countries sign a bilateral and discriminatory treaty. The following lemma establishes this result:

Lemma 5 Socially optimal tariffs cannot be sustained in equilibrium if we are to allow coalitional deviations.

Proof: We need to satisfy the following to prevent any pair of governments from forming bilateral coalitions:

\[
\begin{align*}
U_A^s + U_B^s &> U_A^A + U_B^A \\
U_A^c + U_C^c &> U_A^A + U_C^A \\
U_B^c + U_C^c &> U_B^B + U_C^B
\end{align*}
\]

But from the definition of optimal tariffs for coalitions we have

\[
\begin{align*}
U_A^s + U_B^s &< U_A^A + U_B^A \\
U_A^c + U_C^c &< U_A^A + U_C^A \\
U_B^c + U_C^c &< U_B^B + U_C^B
\end{align*}
\]

Thus, all of the restrictions to prevent bilateral deviations in (4) can not be satisfied simultaneously. Coalitional deviations would completely undermine an equilibrium with socially optimal tariffs.

Since bilateral treaties are sustainable as equilibria, as we showed in the previous lemmas, these coalitional incentives to deviate are real and need to be overcome by any multilateral
treaty. However, the biggest joint payo® is still not large enough to deter all bilateral deviations. This result is parallel to the observation we made in the previous sections (in Lemma 3) that for every tari ® vector, we can nd a new one that is Pareto superior for some coalition. The third country does not have enough enforcement power to deter the deviation by a coalition and thus the ability to implement discriminatory tari®s prevents countries receiving socially optimal outcomes. As we have mentioned before, even the availability of ef cient transfer mechanisms does not solve the dilemma faced by the countries when there are externalities present.

The period between the two World Wars is an example of how the availability of discriminatory policies undermined all e®orts for a multilateral agreement on socially ef cient tari® rates. The initial British and French opposition to MFN agreements in the early 1920s as a way to punish Germany and her allies for the War shaped the initial stages of the trade negotiations (Irwin [1991]). Once it was clear that a group of major countries were going to o®er discriminatory treaties to their trading partners, no other country had any incentive to pursue and o®er MFN treaties to all trading partners as many did in the second half of the 19th Century. The World Economic Conference in 1927 was one of the multilateral e®orts to lower trade barriers and some progress was made where countries agreed to lower all their (discriminatory) tari®s by ®xed percentages. Nevertheless, these agreements were never implemented and trading blocks were formed by major countries and their natural trading partners (mostly ex-colonies and geographic neighbors) to combat the Great Depression. The arrangements within these blocs re®ected the preferences of the bigger countries. For example, France and her partners preferred a gold-standard regime and employed quantitative restrictions since their overvalued currencies led to trade imbalances. Britain and her partners took the sterling o® the gold standard, depreciated their currencies and managed their account balances through decreased imports. Germany and other central European countries installed controls on foreign exchange transactions and established barter arrangements amongst themselves. Between 1929 and 1934, the share imports from the countries within their blocks increased to 42% (from 30%) for Britain, to 40% (from 20%) for Germany,
to 33% (from 12%) for France and to 28% (from 16%) for Japan.

While these discriminatory arrangements were put in place, at the League of Nations and other international forums, there was continuous emphasis on non-discriminatory trade practices. However, large countries refused to extend MFN treatment to other countries unless they received the lowest tariés from others. For example, the Us signed several bilateral treaties with smaller trading partners where the MFN treatment was extended on a conditional basis to receive maximum advantage. The smaller countries were even more reluctant since they were afraid of losing their privileges with their main trading partners. Realizing that multilateral eéorts were failing, in late 1930, Second European Conference for Economic Action, suggested bilateral treaties but only if the agreements would be extended to others with unconditional MFN. In 1932, Netherlands and Belgium agreed to lower all tariés by 50% but refused the MFN restriction. Britain refused to lower her tariés unless she received the lowest tariés. British Prime Minister claimed that Britain would not obtain any new beneéts as long as Holland and Belgium tariés to France were lower than the ones to Britain. Again the main barrier in front of trade liberalization was the availability of discriminatory policies, not the mode of negotiations.

Mid 1930s witnessed increased United States activism in the trade area. The US played a key role at the Montevideo conference for trade cooperation among the countries in the Americas which laid the ground to further bilateral negotiations. During the rest of the decade, the tariés were lowered by 20% on average through bilateral treaties, mostly with other countries in Latin America and Canada. Most of these treaties included MFN clauses and these partners were in the process of negotiating similar deals with each other. A relatively stable trade regime structured around the US and based on bilateral treaties was in the process of creation. Another important event was the 1938 Anglo-American treaty which formed the foundation for the Bretton Woods conference. As these eéorts were gaining momentum for lowering tariés, the political balance in Europe was beginning to crumble with the rise of Nazism and the war arrived soon. The trade issues were put on hold until the end of the year as the governments started to manage their economies more directly for the
war efforts. The post-War trade regime was going to look very different.

3.3 Discrimination and Different Outcomes

As we explained above, the discriminatory arrangements took a different form in the 1830s and 1840s compared to the interwar period. In the 19th century, countries, especially Britain, signed bilateral treaties which had short life spans until the famous treaty with France in 1860. On the other hand, countries formed regional trading blocks in the 1920s and 1930s which seemed relatively stable given the chaotic economic environment. The appearance of these two very different equilibrium paths can be only partly explained by our model but other factors of the underlying economic scene will shed more light on this issue. The period between 1815 and 1846 (when the Corn Laws were repealed in Britain) was relatively a peaceful one and was characterized by the loss of colonies by major powers who realized the importance of intra-Europe trade for their welfare (Irwin [1995] and Kindleberger [1975]). Britain dominated the industrial sector and other countries were mainly the exporters of raw materials or simpler manufactures. As Kindleberger [1975] provides ample evidence, there was increasing desire for trade liberalization in all of the major European countries and the negotiations were held continuously. However, this period was also when the countries were resolving their domestic problems. Unification in Italy and Germany, the decline of the landowner control in the British politics and struggle between Napoleon and the French legislature occurred in this period. Foreign alliances could not really help the countries with their domestic problems and there were no reason to establish them. The main trading countries, especially Britain, opted for the short term and unstable bilateral treaties until British reversion to unilateral free trade.

On the other hand, the 1920s and 1930s were the Great Depression era when depression, unemployment and financial crises were common problems to all countries. Trade restrictions and beggar-thy-neighbor type competitive devaluations were implemented as means of exporting these problems to the other countries. According to Gordon [1941], all attempts for
multilateral action failed because none of the major countries wanted to commit to policies which would limit their ability to combat depression. The formation of stable blocs around larger countries while increasing inter-block trade and other discriminatory measures seemed to be the obvious methods to pursue other monetary policies such as exchange rate controls and balance of payments. In short, these two periods point to the fact that failure to establish efficient trading regimes result from the inability of the countries to commit themselves to implement non-discriminatory tari® policies. The eventual discriminatory equilibrium, on the other hand, seems to depend on the other complimentary aims and policies that needed to be pursued.

4 The Non-Discrimination Clause

Although it appeared in commercial treaties since the sixteenth century, the non-discrimination clause (MFN) became widespread in the latter half of the 19th century (see Viner [1951] for an interesting history of the MFN clause in the commercial treaties). In its general form, it provides a commitment on the part of the contracting parties that they will grant the most favored treatment to each other among all of their treaties with third parties. In a network of bilateral treaties with this clause and in a multilateral framework, this condition boils down to non-discrimination among trading partners. In this section, we will analyze the e®ects of this constraint on the bilateral and multilateral negotiations we have described previously. Then, we will discuss the outcomes of trade negotiations with this clause within the historical context.

We had initially assumed that the countries were symmetric, thus the tari® levels on any good that maximize the total payo® will be equal to each other (for example. \( \xi_{ab}^5 = \xi_{ac}^5 \)). Countries can set their MFN tari® to these levels and handle the distribution of the total payo® through the transfers. From Lemma 3, we know that a threat to revert to unilateral strategies sustains the socially optimal tari® as an equilibrium for all \( \pm > \pm^{\text{max}} \). The important question we face whether if these socially optimal tari® can be sustained
against coalitional deviations assuming the deviating countries will still honor the MFN obligations to the third country. The following lemma answers this question:

Lemma 6 Assume countries cannot deviate from the MFN obligation. Then, the strategies that deter unilateral deviations (for $\pm > \pm^{\text{opt}}$) will also deter coalitional deviations and socially optimal tariffs will be sustained.

Proof: We know that $\xi_a^S = \xi_{ab}^S = \arg \max U_A a(\xi_a; \xi_a) + U_B a(\xi_a; \xi_a) + U_C a(\xi_a; \xi_a)$ and $\partial U_A a = \partial \xi_a > 0; \partial U_B a = \partial \xi_a < 0$ and $\partial U_C a = \partial \xi_a < 0$ when $\xi_a = \xi_a^S$: Similar properties hold for $\xi_b^S$ and $\xi_c^S$: So if A and B were to deviate and change their tariff rates $\xi_a$ and $\xi_b$, they would only increase them. However, we have showed that unilateral increases are not optimal therefore joint increases will not be either. Thus, coalitional deviations will be deterred.

This lemma shows that the countries can sustain socially optimal tariffs against unilateral and bilateral deviations under the MFN constraint. With discriminatory tariffs, two countries can sign and it in their interest to make a side deal since they can gain at the expense of the third one. In this case, however, any tariff change will affect the two importing countries similarly and their incentives will be aligned against the exporting country. A tariff decline will benefit the outsider while an increase will hurt the coalition and therefore there will be no incentives to form separate coalitions. The MFN clause performs the role of a commitment mechanism against renegotiating a new deal with one of her trading partners.\footnote{The importance of commitment against opportunistic renegotiation has been emphasized in other contexts (for example see McAfee and Schwartz [1994] model on a monopolist supplier and many customers) and the role of non-discriminatory arrangements has been identified.}

We should note that the above result does not depend on the kind of negotiations these socially efficient outcomes were obtained from. It is obvious that in a multilateral setting, as long as they are enforceable, socially efficient tariffs will be chosen in equilibrium since provide the unique Pareto efficient payoffs. The countries can share this total payoffs through the transfers. In the bilateral case, we need to be more careful. Suppose A and B meet at
time \( t \) and establish their respective tariff rates with the MFN clause. In the next period \( A \) and \( C \) will meet and we would like to see if \( C \) would demand the same tariff level as well. This is equivalent to saying whether if \( \zeta_{ac} \) that maximizes their joint payoff is higher than the fixed tariff \( \zeta_{ab} \) with \( B \). However since \( A \) and \( C \)'s joint payoff is decreasing in \( \zeta_{ac} \), they will try to lower it as much as possible which is \( \zeta_{ab} \) in this case. Thus, no matter what the agreed tariff is between \( A \) and \( B \), \( C \) will demand it as well. Finally, in period \( t + 2 \), \( B \) and \( C \) will sign a similar treaty with the MFN clause because of the same reasons. Since we know the responses in these two periods to the previous ones, we can do backwards induction and calculate the tariff levels in the initial stage. The tariff outcome in the multilateral and bilateral outcomes will be identical at the socially optimal levels, however the transfers might differ\(^5\). In the absence of transfers, we would expect the tariff outcomes in bilateral and multilateral negotiations to differ due to strategic issues. However, this is a complicated task and we will not address here. Nevertheless, it still be valid that non-discrimination provides commitment against renegotiation and improves welfare under both bargaining frameworks.

Final question we need to answer is why the countries would 'find it in their interest to abide by the MFN obligations at all. This rule needs to be self enforcing as well and this point can be problematic. There are several arguments we can present on this issue. If \( A \) and \( B \) knew for sure that their bilateral treaty would be sustained in every period then they would have no incentive to sign MFN treaties with each other since they both benefit from discriminating against \( C \). However there are three discriminatory (and stable) equilibria and one of the countries is left out in each one. If we assume that each country has a probability of \( 2/3 \) of being in a treaty and \( 1/3 \) of being outside, then she would rather commit to the MFN principle since her payoff would be higher. In other words, MFN provides protection against being left outside a treaty. We can also focus on the equilibria where the pair of

\(^5\)These will depend on the details of the bargaining environment which we have totally ignored in this model. There are many models that deal with multilateral bargaining over a 'xed pie and their results depend heavily on the speciﬁc assumptions of the underlying strategic form game (see Serrano and Krishna [1996])
countries signing a bilateral treaty changes every period as in Lemma 3. Then it might be in the interest of the countries to commit themselves ex ante to the MFN policies since they will obtain higher overall payo®

A close analysis of the trade regimes governed by the non-discrimination principle reveals that their most striking feature is their relative stability. A major example is the late 19th Century regime was based on the network of bilateral treaties starting with the Anglo-French treaty of 1860. The article in the treaty on this issue stated that each of the contracting parties engages to extend to the other any favor, any privilege or diminution of tari® which either of them may grant to a third party in regard to the importation of goods whether mentioned or not mentioned in the treaty of 1860". At the time, Britain had unilateral free trade for two decades and was not interested in further bilateral negotiations. This one sided e®ort for a long period of time established their reputation and commitment against renegotiation of their treaties. The French commitment to non-discrimination provided the momentum for the movement for free trade. This commitment was provided by Napoleon's political motivations to establish Britain as an ally. Deviation from this principle would damage that relationship and in“ict great political harm. Finally the addition of Zollverein to this group with (also with some political motivations) provided the necessary Europe-wide commitment to non-discrimination and led to the creation of a relatively liberal regime.

The bilateral treaties were valid for "xed time periods (generally ten years) and negotiated again afterwards. Any country could terminate the agreement with advance warning (generally one year). This regime saw a relative decline starting in the late 1870s and some trade wars in the 1880s. However, these were mostly due to the shifts in the underlying economic environment and certain macroeconomic shocks such as the increase in agricultural output and drop in their prices. These disruptions were never in the same magnitude as we would see in the 1930s. A macroeconomic shock might change the underlying objective functions and governments might "nd it in their interest to simply abandon these treaties. This does not imply that the initial rules that led to the treaties is ine®cient, but simply the optimal outcome has changed. The possibility of the renegotiation of the treaties provided
the exibility that the system needed. The disputes of the era included sharp tariff increases on certain products (such as agricultural products in Switzerland, France and Belgium), but the non-discrimination principle was never questioned. The deterioration of the system, although noticeable compared to the 1860s, was very mild even if we were to compare to recent developments in the GATT.

MFN becomes more visible in the GATT where it forms Article I. It states that "... any advantage, favor, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties" (see Jackson [1969] for a detailed history of the GATT regime). With this article, MFN became the single fundamental principle of our current trade system as well. The commitment to non-discrimination in the post-war era was provided through the initiatives of the US. In 1945, the US accounted for the majority of the world trade and had established non-discrimination as the centerpiece of American trade policy for the last two decades. Furthermore, the rest of the world and especially the European countries needed the American support in the reconstruction e®orts after the war. American policymakers believed the competitive superiority of their products and insisted on a multilateral and free trade system. The American position provided the necessary commitment for the MFN principle and the GATT framework. The remarkable success of the GATT system induced more countries to join it in each round and led to the creation of WTO as the sole international organization to govern world trade.

Another interesting fact is that most of the problems faced by the GATT regime arise due to discriminatory practices. In agricultural products, most countries wanted to provide

\[^{6}\text{We should note that the GATT allows several major exceptions to the MFN principle. The most important one is the permission to create free trade areas and customs unions whose members will have discriminatory preferences for other members. Although, these are technically incompatible with the MFN principle, they were believed to bring countries towards freer trade.}\]

\[^{7}\text{The US sometimes used a conditional MFN clause in her bilateral treaties.}\]
protection towards their domestic sectors and many were allowed to set discriminatory poli-
cies using quota based measures. Actually, most GATT rules included exceptions for the
agricultural products and now it seems impossible to reverse the trend. On issues related
to intellectual property rights, labor and environmental standards, extensive changes are
required in the domestic laws of the countries to reach agreements. It is difficult to estab-
lish non-discriminatory policies on these issues since it is almost impossible to implement
identical domestic laws in every country.

Finally, we should point out the mechanisms within the GATT to deal with changes in the
economic parameters. The creators of GATT were quite aware of the dangers that might be
posed by these changes and the safeguard provisions of GATT were put in place to give the
right to raise protection in the event of unforeseen events. Article 19, speciﬁcally states that
a country can withdraw a concession or suspend an obligation... if the product is imported
in such increased quantities to cause serious injury... " The country can take any necessary
action immediately with a simple notiﬁcation of the affected parties. The article explicitly
speciﬁes a supply shock of the sort we mentioned above and provides a safety mechanism so
that the whole system does not collapse due to a shock to one party. Furthermore, Bagwell
and Staiger [1990] argue that the "creative" protectionist policies such as Voluntary Export
Restraints (VER) and Orderly Market Arrangements (OMA) serve the same purpose. At
times of high import volume, they help to create special protection and maintain the rest
of the system. The fact that both exporters and importers agree to the terms of these
temporary "managed" trade mechanisms is further evidence that these mechanisms are part
of the equilibrium process which both sides want to preserve.

5 Conclusions

In this paper, we attempted to analyze certain features of trade regimes using an analytical
model and historical evidence. The three main periods we focus on are the bilateral system
of late 19th century, the trade wars of interwar era and current multilateral GATT/WTO
regime. We argued that the establishment and survival of a mutually benecial trade regime depends on the rules under which the negotiations are conducted and outcomes implemented. Among these rules the most important one is the non-discrimination clause which prevents an importing country from treating the exporting countries di®erently.

Since there are no world courts to punish deviators, trade agreements need to be self-enforcing and countries should `nd it in their interest to perform their obligations. We have argued that the repeated nature of the trade relationships can overcome unilateral incentives to deviate, however, no mechanism can prevent all coalitional deviations. By this we mean that a subset of countries might sign a new agreement that will bene´t them at the expense of the rest of the world. Formation of such trading blocks lowers social welfare since the bene´t to the members are less than the losses of the outsiders where these gains and losses arise from the diversion of trade. The availability of discriminatory tari®s leads to these diversions and is the main reason behind the incentives to establish such blocks. Trading regime in the rst half of the 19th century and the inter-war period were characterized by discriminatory arrangements which were detrimental to all countries in the end. However, the equilibria that appeared in the absence of non-discrimination di®ered in the two periods and we argued that this depends on the other motivations of the countries. The presence of regional blocks in the 1930s served certain monetary and foreign exchange policies whereas the aim was simple trade diversion in the 19th Century. This is the reason why they were short lived.

If the countries were to agree to implement only non-discriminatory tari®s, this problem of coalitional deviations disappears. Since all the bene´t to extended to everybody without discrimination, no coalition will `nd it pro`table in equilibrium to change their policies. However, a new problem arises since this rule needs to be enforced as well. We argued that in the 19th century, the commitment to this rule was provided by the major economic powers through other political incentives. In the post-war era, it was the American commitment that served the same purpose. Once it becomes expected that this rule would be in place, all countries will `nd it in their interest to abide by it. The lack of commitment
to non-discrimination in the interwar period was one of the main reasons behind the failure of all efforts for liberalization. We should add that the commitment mechanisms created by the dominant powers (the US or Britain and France) should be seen as actions of a rational, welfare maximizing actor rather than as the provision of a public good by a hegemon.

We also argued that the repeated renegotiation of the bilateral treaties in the 19th century and the safeguard clauses of the GATT agreement provided the flexibility these systems needed to handle the changing macroeconomic and other relevant parameters that affect the optimal outcome. Finally, we should note that the most important issue for a successful liberal trade regime is the non-discriminatory nature of the negotiations. The final agreements on the tariff rates did not result whether the negotiations were bilateral or multilateral in our model due to the availability of transfer mechanisms. In their absence, there will be multiple Pareto efficient tariff pairs and, as we argued in chapter 2 and 3, the outcome will depend on the bargaining game played. Without the MFN rule, on the other hand, none of the Pareto efficient outcomes can be implemented.
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