MODERN MERCANTILISM AND A LIBERAL TRADE ORDER

by

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1. Introduction

THE ACTUAL CONDUCT of contemporary trade policy contrasts with the picture presented by the standard theory of commercial policy. The latter typically considers a government choosing once-and-for-all the level of a trade policy instrument to maximize social welfare. The government can completely control this instrument, and its choice will not affect the behavior of other governments.\(^1\) In contrast, actual governmental policy makers often have incomplete control over policy, and actual policies often involve the repeated application of temporary protectionist measures, such as safeguard provisions, antidumping laws, reciprocity, Super 301, etc. - types of policies here referred to as the New Protectionism.

The usual way of dealing with this dichotomy is to explain the chosen policies from a political economy perspective.\(^2\) This is natural, since trade policies usually benefit some at the expense of others and can therefore be seen as resulting from successful attempts to affect the political process through lobbying, etc., rather than from the maximization of social welfare.

This paper examines the New Protectionism from a viewpoint somewhere between the pure social welfare maximization paradigm and the pure political economy of protection. Once the repeated feature of these policies is taken into account, and in particular the possibility that such rules might affect the future conduct of trading partners, then policies that on a contemporaneous basis might appear outright protectionist and best viewed from a political economy point of view, in the longer run may actually serve more liberal purposes.

The paper builds on the notion that government executives have only incomplete control over trade policy, but try to affect the political support for certain outcomes by means of other
policies. Thus, to the extent that executives try to influence trade policies, there will be associated effects on these other policies, effects that need to be taken into account when the policy is evaluated. Furthermore, the executive in one country conducts strategic trade policy with regard to foreign governments at the same time as each government is concerned with its own domestic political economy, and these are interrelated.

Looking at trade policy from this perspective forces attention on several features of the political-economic landscape seldom present in the literature. First, with trade policy linked to other policies and to internal politics, negotiators are likely to have only imperfect knowledge of the trade-offs faced by their opposite numbers in other countries, or about the final implications for trade of concessions that those opposite numbers make. Furthermore, such knowledge is likely to be more imperfect with regard to some countries than others. Such considerations have arisen time and again in US-Japanese relations, for example.

A second implication is that authorities in different countries are likely to differ in the degree and type of control they are able to exercise over trade policy. Japanese negotiators claim to be unable to implement policy changes that seem almost innocuous to outsiders, Europeans profess themselves helpless over agriculture, and US negotiators must struggle for fast-track authority.

Thirdly, with trade-policy actions constrained by existing trade law and/or international agreements, and with trade policy linked to other economic policies, national policy makers may be willing, or constrained, to forgo some or all of the rents generated by their trade-policy choices, even if acting to maximize national welfare in some sense.4

Each of these three features can be accommodated in diverse ways within an abstract study, so quite a few interesting and relevant combinations of assumptions are possible. A single paper cannot hope to be comprehensive, and our choice of specific assumptions is driven considerably by analytic convenience. We do not claim that our choice corresponds best to any specific real-world situation, but hope that it demonstrates the significance of these features and their interrelations.
The next section develops a political-economy model in which trade policy is determined through a political process over which the government has incomplete control. The economy consists of individuals with different endowments of two factors of production — labor and human capital. The government controls another instrument, here taken to be the supply of a public good. To finance the provision of this good the government levies a proportional income tax. As a result, individuals differ in their views on the ideal size of the public sector and on the most preferred trade policy. The government maximizes a Benthamite welfare function. The purpose of this assumption is to show that even such a government may pursue policies that could be mistaken for protectionism. As will be shown, the population can be divided into three distinct groups. One group prefers liberal trade and a supply of the public good that is smaller than what would be obtained according to the Benthamite criterion. The two other groups both prefer a larger supply than the criterion dictates. Some of these people will always favor a protectionist outcome. But there will also be a group whose attitudes toward trade policy depend on the exact supply of the public good.

While the government cannot directly control trade policy, it can by its choice of the policy that it can completely control affect the public’s opinion about trade policy. The political process determining the actual trade policy is not modelled explicitly. Instead, it is assumed that the process is stochastic, but that the likelihood of a liberal outcome increases with the fraction of the population that prefers it. As is shown in section III, this circumstance might induce the government to increase the supply of the public good beyond what it prefers, in order to increase the probability of liberal trade.

Sections IV and V consider policy interaction over time between an economy of the type just described — denoted Denseland — and another economy — Plainland — that for simplicity is taken to be more traditional. The Denseland executive chooses the supply of the public good to affect the probability of a liberal outcome. Plainland chooses a policy response, i.e. tariff levels that depend on the trade policy stance realized in Denseland. This asymmetry in the speed of response to trade policies of trading partners is partly intended to capture differences
in political institutions across countries. But it is also the simplest set-up that can address our questions. Obviously, some of our particular results are governed by this asymmetry. However, the main thrust of the analysis would survive in a more symmetric, framework.

As a benchmark, we first consider the static Nash equilibrium where neither government formulates its policies with regard to any future consequences. This equilibrium thus corresponds to a standard atemporal equilibrium, except that the policy regime in Denseland is partly stochastic. However, the two governments can potentially do better than the static solution, since neither party takes into account the externality its policy choice implies for the other. It is shown that there do indeed exist equilibria in the repeated game that are Pareto superior to the static equilibrium, provided that standard conditions, such as a sufficiently high discount factor, prevail. The distinguishing feature of these equilibria is that they imply a larger supply of the public good in Denseland. This is brought about by a change in Plainland’s policy in the direction of a relatively less protectionist response by Plainland to a liberal trade outcome in Denseland.

II. A Model of Economic Policy Determination

A. The Economy

The economy is endowed with fixed stocks of two factors of production, labor and human capital. Each factor is the sole input in the production of a single private good, and the two factors together can produce a third, public, good. Let $a$ and $b$ denote what the economy’s production of the labor-using and human-capital-using private goods would be if all resources were devoted to their production. Thus with proper choice of units, $a$ and $b$ denote the endowments of labor and human capital respectively; we will accordingly use these symbols to refer interchangeably both to the factors and to their associated private goods. The production function for the public good is assumed given by $g = (a)^\alpha(b)^{1-\alpha}$, where $a$ and $b$ denote the inputs of labor and human capital.
Each individual $i$ possesses tastes summarized by the following common utility function:

$$
u_i = A_i^a B_i^{1-a} + G$$  \hspace{1cm} (1)

where $A_i$ and $B_i$ denote individual $i$'s consumption of the two private goods and $G$ the subutility derived by each individual from the community's consumption of the public good. This implies the indirect utility function

$$
u_i = \alpha^a (1-\alpha)^{1-a} y_i q^{-a} + G = \lambda q^{-a} y_i + G$$  \hspace{1cm} (2)

where $q$ denotes the relative domestic price of $a$ in terms of $b$ and $y_i$ denotes the disposable income of individual $i$.

The subutility index for the public good is given by $G = f(g)$, where $f' > 0$, $f'' < 0$. Note also that the subutility index for private goods has the same functional form as does the production function for the public good. We assume this so that a shift of spending between private and public goods will not change the economy's relative demands for the two factors.

Let $N$ be the measure of population size, with $i \in [0, N]$. Assume that ownership of $a$ is distributed uniformly across the population, so that individual $i$'s ownership is $a/N$, while ownership of $b$ is distributed according to the distribution function $\phi(i)$, measuring the fraction of $b$ owned by all individuals in the interval $[0,i]$, where $\phi', \phi'' > 0$. Thus wealthier individuals are those indexed higher, and individual $i$'s ownership is $b_i = \phi'(i)b$.

1. **Government finance.** Fiscal policy is determined by the executive. This policy consists of the provision of the public good $G$, financed by a proportional tax at the rate $\tau$ on each individual's endowment. Total government revenue, given the tax policy, is accordingly $R = \tau(qa + b)$, and
individual $i$'s disposable income is $y_i = (1 - \tau)(q[A/N] + b)$. The subutility index for the public good implies the following demands from the government

$$a_c - \alpha \frac{R}{q}; \quad b_c = (1-\alpha)R. \quad (3)$$

Substituting (3) into the production function for the public good gives the provision of $G$.

$$G = f((a_c)^\alpha (b_c)^{1-\alpha} - f(\lambda q^{-\alpha}R). \quad (4)$$

Letting $F = f^{-1}$, the tax rate required to finance the provision of $G$ can be expressed

$$\tau(q, G) = \frac{1}{\lambda} \frac{q^\alpha}{qa + b} F(G). \quad (5)$$

Thus the individual indirect utility function in (2) can be written $u_i = u(q, G, i)$.

2. Trade. Assume this country's pattern of comparative advantage is such that it always imports $a$ and exports $b$. Trade policy is determined in each period through an administrative apparatus defined, explicitly or implicitly, by past action. This apparatus can be thought of as antidumping law, safeguard provisions, the opportunity to lobby for favorable treatment or for temporary legislative "perks", etc. The policy takes the form of a specific domestic price of good $a$, to be set each period. Detailed of the administrative process will be described below. For simplicity we assume that $q$ must take one of two values, $q^*$ or $q^p$, where $q^* < q^p$.

Given the utility function (1), the community spends the fraction $\alpha$ of its disposable income on $a$. Thus imports $M$ of good $a$ are
\[ M = \alpha \left[ (1-\tau) \frac{(qa + b)}{q} \right] + a_c - a. \] (6)

B. Policy

The executive performs two functions: determining fiscal policy and administering trade policy. The executive wishes to adopt policies that are best for social welfare from a Benthamite perspective,\(^7\) that is, that maximizes the integral of individual utilities.

\[ V(q, G) = \int u(q, G, i) \, di \] (7)

1. Optimal fiscal policy. Given trade policy, the value of \(G\) that maximizes social welfare is determined from the first-order condition:

\[ V_G - N - F'(G) = 0. \] (8)

Denote by \(G^o\) the solution to this equation. Note that \(G^o\) is independent of trade policy. (The tax \(\tau\) necessary to finance \(G^o\) does depend upon \(q\), however, so we will refer to a fiscal policy as a choice of \(G\) rather than of \(\tau\).) The executive is free to implement whichever policy \(G\) it wishes. If it ignores the implication of that choice for the determination of trade policy, the optimal policy is \(G^o\). Given our Benthamite welfare criterion, first-best economic policy is \(G = G^o\) and \(q = p\), the world relative price.\(^8\) However, the executive is assumed constrained in its ability to conduct trade policy.

Given trade policy, an increase in \(G\) requires an increase in \(\tau\) to pay for it. (Because the production function for \(G\) is identical to consumers' subutility index, varying \(G\) does not change national demands or the quantity \(M\) of imports). Thus the effect on the welfare of individual \(i\) is:
\[ u_c(q, G, i) = 1 - \lambda q^{-}(qa_i + b_1) \tau_c = 1 - \frac{qa_i + b_1}{qa + b} F_c. \] (9)

In particular,

\[ u_c(q, G^o, i) > \frac{qa + b}{N} > qa_i + b_i \iff \frac{b}{N} > b_i. \] (10)

That is, the socially optimal \( G = G^o \) is also the optimal fiscal policy for the citizen with the average endowment of \( b \). Those with above-average \( b \) prefer less \( G \) and those with below-average \( b \) prefer more \( G \).

2. Trade policy. Trade policy (that is, the choice between \( q^l \) and \( q^p \)) is determined by an administrative procedure that gives some scope to political pressures. These pressures are exerted by coalitions that form to influence the choice of \( q \) by lobbying and by legal and administrative efforts (e.g., the preparation and filing of antidumping petitions). The choice of \( q \) is influenced by the relative sizes of the \( q^l \) and \( q^p \) coalitions, but it is not determined entirely by these sizes. The success of an antidumping petition, for example, depends upon the objective facts of the case, on the zeal with which the petition is prepared and presented, the enthusiasm mustered by its members at this particular time, the cohesiveness of the active members, the wisdom of the strategy chosen by its leadership, etc. We assume that the executive possesses sufficient demographic information to predict accurately the size of coalitions that will form, but that it does not possess sufficient advance information about circumstances to predict how influential the coalitions will be, beyond what can be inferred from size alone. Let \( \delta(\epsilon) \) denote the probability that \( q \) will be set equal to \( q^l \), when \( \epsilon \) denotes the fraction of the population in the \( q = q^l \) coalition. Assume \( \delta \) to be increasing in \( \epsilon \) at a decreasing rate.

C. Special Interest Groups

This section discusses the dependence of individual welfare on trade policy, given fiscal policy. Algebraic detail is banished to Appendix I.
In Figure 1, $E$ denotes the endowment of the average individual (who prefers $G = G^o$) and $P$ and $L$ denote individuals whose utility is minimized at $q^l$ and $q^p$ respectively. Thus $P$ has an autarky relative price of $q^l$ and so will sell $a$ for any higher relative price and will sell $b$ for any lower relative price. Individuals with endowments between 0 and $P$ have autarky prices lower than $q^l$ and so will sell $a$ at both $q^l$ and $q^p$; for them $u_a > 0$ regardless of what policy is, so they always prefer a trade policy of $q = q^l$. Those individuals with endowments between $L$ and $N$ similarly have higher autarky prices than $q^p$ and so always sell $b$; for them $u_b < 0$ regardless of what policy is, so they always prefer a trade policy of $q = q^p$. Individuals with endowments between $P$ and $L$ sell $a$ when protection is high ($q^p$) and sell $b$ when protection is low ($q^l$).

$I(G)$ denotes the endowment of the individual who is just indifferent between $q^l$ and $q^p$ when fiscal policy is $G$:

$$u(q^l, G, I(G)) = u(q^p, G, I(G))$$ (11)

The size of the coalition favoring liberal trade is thus $e^o = (N-I(G^o))/N$ if $G = G^o$. Individuals with endowments between 0 and $I$ favor more government and high protection; those individuals whose endowments lie between $I$ and $E$ favor more government and liberal trade; those with endowments between $E$ and $N$ favor less government and liberal trade; no one favors less government and high protection.

Three basic features (more or less arbitrary) of our model determine this array of interest groups. The most significant of the three by far is the assumption that, in effect, it is the poorer part of the population that competes with imports. Thus the wealthier part, which wants a smaller government, will not also want protection. The second feature, discussed in Appendix I, is the assumption that equilibrium does not feature a government sector with such a large appetite for importables that protection is in no one's interest overall. Third, we require the import competing sector to be sufficiently large (see the discussion in Appendix I).
Figure 1
III. Policy in a Small Open Economy

Suppose that the economy described above can export \( b \) for \( a \) at a world price uninfluenced by the economy's actions, economic or political. Suppose also that the executive wishes to maximize the expected value of the Benthamite criterion \( V(q, G) \). If trade and fiscal policies are determined independently, such an executive will set \( G = G^o \), so that the economy will experience \( q = q^l \) with probability \( \delta(e^o) \) and \( q = q^p \) with probability \( 1 - \delta(e^o) \). The executive will also strive for the more liberal trade policy, but its efforts in this regard are embodied in the function \( \delta(e) \).

A. Fiscal Policy and the Support for Liberal Trade

The line-up of interests implies, however, a scope for the executive to use fiscal policy to alter the coalition favoring liberal trade. Individuals slightly below \( I \) would lose little from a switch to a more liberal trade policy but, being some distance from \( E \), would significantly value an increased fiscal effort. Such an effort, by increasing the tax burden, increases the tax consequences of the protectionist policy. Since they were initially indifferent about trade policy, such a change should drive them into the liberal trade coalition. We now investigate whether this intuition is correct.

Differentiation of (11) yields

\[
I'(G) = \frac{u_c(q^L, \cdot) - u_c(q^P, \cdot)}{u_l(q^P, \cdot) - u_l(q^L, \cdot)}.
\]

(12)

Now

\[
u_l = \lambda q^m [1 - \tau] b \phi''(I)
\]

(13)

which is decreasing in \( q \) since a rise in the latter lowers \( q^m \) and raises \( \tau \), given \( I \) and \( G \). Thus the denominator in (12) must be negative. Furthermore, (2) implies that
\[ u_c - 1 = \frac{F'(G)}{N} \frac{qa + bN\phi(i)}{qa + b} \]  (14)

Then

\[ u_{c_1} = \frac{F'}{N} \frac{ab}{(qa + b)^2} [1 - N\phi(i)] \]  (15)

The term in square brackets is positive for any i less than E; in particular it is positive if i \leq I. Then u is decreasing in q, and the numerator of (12) is accordingly positive, so that \( I'(G) < 0 \).

An increase in G will accordingly increase the size \((N-I)/N\) of the coalition favoring the liberal trade policy. Let \( e(G) \) denote this coalition.

\[ e(G) = \frac{N - I(G)}{N} \]  (16)

**B. Optimal Fiscal Policy**

Assume that the executive is willing to alter the liberal trade coalition to \( e(G) \) by changing its fiscal policy\(^{11} \) G. Then it will choose G to maximize expected social welfare.

\[
v(G, q^L, q^P) = \delta(e(G)) \left[ NG + \lambda(q^L)^{-\alpha} \int y^L_{i} di \right] + [1 - \delta(e(G))] \left[ NG + \lambda(q^P)^{-\alpha} \int y^P_{i} di \right] \]

\[ - NG - F(G) + \lambda \left[ \delta(e(G)) (q^L)^{-\alpha} (q^L a + b) + [1 - \delta(e(G))] (q^P)^{-\alpha} (q^P a + b) \right] . \]  (17)

The first-order condition for this problem is:

\[ F'(G) - N + \lambda \Delta \delta e_e \]  (18)

where \( \Delta = (q^L)^{-\alpha}(q^L a + b) - (q^P)^{-\alpha}(q^P a + b) \). With our assumed trade pattern, \( \Delta > 0 \). This simply says that the marginal cost of providing the public good should equal the sum of its direct contribution to social welfare plus the indirect expected social gain resulting from the expanded liberal-trade coalition. If this latter link were absent, so that the second term vanished, this
would reduce to our earlier condition and would imply $G = G^0$; otherwise, $G > G^0$. This illustrates the *strategic interface* between domestic and trade policies referred to in the introduction.

Denote the solution to this problem, that is, the optimal strategic fiscal policy, as $G^*$. Clearly this solution depends upon the two possible trade policies: $G^* = G^*(q^l, q^p)$. Either an increase in $q^l$ or a decrease in $q^p$ makes the liberal policy less attractive relative to the protectionist policy, so $G^*$ will be decreasing in $q^l$, increasing in $q^p$, and $G^*(q, q) = G^0$.

**IV. International Equilibrium**

In this section we continue to consider an open economy, but no longer assume it to be small in the world, which we now take to consist of two countries. This allows us to introduce strategic policy actions between the countries as well as within them. We examine such international strategy when there are significant differences between the two countries in how their executives are able to administer existing trade law.

**A. An Asymmetric Two-Country Model**

Suppose the conduct of policy in one country, “Denseland”, is as described above. Denseland trades with another country, “Plainland”, whose administration has greater control over policy. For simplicity, assume that it may directly choose the value of a specific international price wedge $t = q - p$ in each period, where $p$ denotes the Plainland relative price of $a$, and that $t$ may be varied continuously. In sum, we assume that the Plainland economy and political economy is qualitatively the same as that of Denseland, as has been described, with two exceptions:

(i) Plainland has a comparative advantage in $a$ rather than in $b$, and in any equilibrium exports $a$ to Denseland in exchange for $b$.

(ii) The Plainland executive has the ability to implement whatever value of $t$ it chooses.
In Plainland, as well as Denseland, the authorities wish to maximize a Benthamite welfare function, welfare depends upon the provision of a public good, and the socially optimal level of the latter is the amount that maximizes the welfare of the average citizen, regardless of what trade policy is. Because of assumption (ii), the Plainland executive has no reason to link fiscal policy to trade policy and so will always implement this optimal fiscal policy. For this reason, we need not model explicitly this aspect of the Plainland political economy, nor need we specify the line-up of interests in Plainland.

We assume that the Plainland authorities do not understand the intricacies of the Denseland political process as well as the Denselanders do. In particular, the Plainlanders do not witness the political process in full detail and cannot observe the \( e \) that this process yields. The Plainlanders can observe the realized fiscal policy \( G \), but they cannot tell what degree of sacrifice it entails for the Denseland government or what political effect it will have.

Denseland is as modeled before, but now its domestic relative price depends upon Plainland actions in addition to Denseland's choice of policy regime: \( q^f = q_o(t) \) and \( q^p = q_r(t) \). As before, there is no need for a precise description of what actions are called for by the two Denseland policy choices, but we continue to impose the strong assumption that they do not allow Denseland to capture any of the rents from trade restrictions. In addition, we suppose that it is unambiguous which Denseland policy regime is relatively more protectionist (that is, \( q_o(t) < q_r(t) \) for all \( t \)), and we also suppose that \( q^f \) and \( q^p \) are both increasing in \( t \).

The Denseland and Plainland governments simultaneously set policies in a succession of repeated periods. In each period the Denseland policy-setting process is as described above. The Plainland government simultaneously sets a policy pair \( T = (t^f, t^p) \) which establishes a specific price wedge conditional upon the Denseland choice of policy regime. (Thus the Plainland policy action can be thought of as the establishment of a specific reciprocity policy, or as a decision to institute safeguard or Super-301 proceedings, whose eventual outcome is sensitive to what Denseland actually does).
The two countries differ in both the extent of control over trade policy exercised by their respective executives and in their ability to capture the rents generated by trade restrictions. We introduce these asymmetries between the two countries in part because international differences in the administration of trade policy are significant. But this is also the minimal structure that allows us to examine the interaction between international strategic policy and internal strategic policy: there is just one country (Denseland) doing both. Note that the country with the greater control (Plainland) is the one that captures the rents. This particular combination of assumptions is perhaps more natural than the opposite (in the sense that ability to capture rent is one aspect of ability to control trade regimes), and it can be defended to some degree by practical considerations. Plainland is in effect deciding how to respond to initiatives from Denseland. Denseland’s initiatives are in turn constrained by existing law and extra-legal restrictions. One of these might well be assumed to be a constraint not to endanger the existing international order, for example, not to violate the GATT or at least not to violate it in a way that disturbs other contracting parties to an extent that it’s existence is endangered. Surrendering the rents generated by policy initiatives could be a practical way of doing this. Such is in fact a major reason often given for why VERs have become the most common type of new trade restriction obtained by industrial countries. But despite such considerations, our chosen combination of assumptions is to at least some degree arbitrary, as is the further combination that the country with the less control is also the one in which the poorer part of the population competes with imports. To proceed we must make some choice, and we leave to the reader consideration of alternatives.

Denote the Plainland Benthamite social welfare function $W(t, q)$. For each value of $q$, $W$ first increases and then decreases in $t$. Let $t^*_t$ denote the value of $t^t$ that maximizes $W(t, q_t(t))$. Similarly, let $t^*_r$ denote the maximizing policy when $q(t) = q_p(t)$.

From a short-run perspective, that is, disregarding consequences for the likelihood of the different policy outcomes, the Plainland authorities will implement $T^* = (t^*_t, t^*_r)$. Denselanders, realizing that this is so, will adjust along their policy trade-off $e(G)$ accordingly.
That is, they will choose $e$ to satisfy the first-order condition (18) on the assumption that $q^l = q(t^*_l)$ and $q^p = q(t^*_p)$. More generally, let $e = e(T)$ satisfy condition (18) for any given Plainland policy pair, with $e = e^*$ when $t^p = t^*_p$ and $t^l = t^*_l$. Then the properties of $e(G)$ and $\delta(e)$ derived previously guarantee that this is a unique maximum. The Denseland authorities will exert themselves to form the coalition $e^*$ for liberal trade practices, and the Plainland authorities will impose $t^*_l$ when the coalition succeeds and $t^*_p$ when it fails.

**B. International Strategic Policy in a Repeated Framework**

The two governments can potentially do better than the static solution $(e^*, T^*)$ because in the latter the Denseland government ignores the externality that its choice of $e$ implies for Plainland and *vice versa*. Thus there is scope for coordination once the repeated character of the conduct of trade policy is recognized. Note first, however, that as usual the equilibrium strategies $(e^*, T^*)$ of the one-shot game will also be subgame perfect Nash equilibrium strategies of the repeated game between the two governments. Due to its intertemporal invariance, we refer to this as the "static" equilibrium of the repeated game.

Consider the following loosely described repeated interaction between the Denseland and Plainland executives. The Denseland executive cannot promise a certain trade policy outcome, but it does promise to implement a fiscal policy leading to a liberal trade coalition of a certain size, $e^*$. As this is not observable to the Plainlanders, they agree to implement a trade policy conditional on the observed Denseland policy regime: $T^c = (t^*_c, t^*_p)$; that is, Plainland in effect punishes Denseland whenever it implements the regime Plainland does not wish, regardless of what $e$ had been. Denseland, on the other hand, can observe the Plainland policy choice. Should Plainland deviate from its agreed policy prescription $T^*$ in some period, it is mutually expected that the static outcome will prevail for some time.

A straightforward application of the theory of repeated games suggests that such trade policies can be sustained as the equilibrium of an infinitely repeated game between the two governments. Our candidate equilibrium can be described as follows. The Plainland strategy
is to set $T = T^\ast$ repeatedly each period, and the Denseland is to set $e^\ast = e(T^\ast)$. Should a deviation occur in any period, the two countries will set $T = T^\ast$ and $e = e^\ast$ for exactly $n$ periods (where $1 \leq n \leq \infty$), after which they will revert to $T = T^\ast$ and $e = e^\ast$.

Given the Plainland strategy of $T^\ast$, the agreed Denseland strategy will be optimal for Denseland since $e^\ast = e(T^\ast)$. Consider the Plainland point of view. Once Denseland trade policy is determined, Plainland would prefer the static strategy to executing its stated strategy. Therefore a necessary condition for this latter strategy to be implementable is that the expected short term gain from not fulfilling its commitment be no greater than the present discounted expected loss next period when the static solution is reverted to:

$$D[w(T^\ast, e^\ast) - w(T^\ast, e^\ast)] \geq w(T^\ast, e^\ast) - w(T^\ast, e^\ast). \quad (19)$$

$D$ is the present discounted value of one unit of welfare received in each of $n$ successive periods, beginning next period, and $w(T, e) = \delta(e) W(t^L, q_L(t^L)) + [1 - \delta(e)] W(t^p, q_p(t^p))$, i.e., expected Plainland welfare if Plainland adopts $T$ and Denseland $e$.

Is it in fact feasible for Plainland to improve over the static equilibrium in the above way? Suppose we are at the latter and implement a small change in the Plainland strategy, inducing the following change in Plainland expected welfare:

$$dw = \left[ e_r dt^r + e_p dt^p \right] \left[ W(t^L_\ast, q_L(t^L_\ast)) - W(t^p_\ast, q_p(t^p_\ast)) \right] \delta'(e) \quad (20)$$

since $W(t^L, q_L(t^L))$ and $W(t^p, q_p(t^p))$ are at their maxima when $T = T^\ast$. Now $e_r < 0$ and $e_p > 0$, so the above expression defines a half-plane of directions of change $dT$ that raise welfare $w$. This is shown in Figure 2 below, which illustrates the case where the Plainland authorities prefer a liberal Denseland policy, that is, where $W(t^L_\ast, q_L(t^L_\ast)) > W(t^p_\ast, q_p(t^p_\ast))$. The alternative possibility is shown in Figure 3 and will be discussed subsequently.
Figure 2, Ts in the upper half-plane raise w. At \( T = T^* \), expression (19) is met with equality, as both sides are zero. A \( dT \) that raises \( w \) turns the left-hand side positive without changing the right-hand side, again because \( W(t^l, q_t(t^l)) \) and \( W(t^p, q_t(t^p)) \) are maximized at \( T = T^* \). Thus (19) continues to be satisfied. The curve labelled WW in Figure 2 shows all strategies \( T \) that satisfy (19) with equality; the above argument establishes that this has slope \(-e_t/e_t^* > 0\) at \( T = T^* \). All points above this curve satisfy (19) and give Plainland greater expected welfare than does \( T = T^* \).

Consider next whether the suggested type of equilibrium is preferred by Denseland executives to the static outcome. At \( T = T^* \) a small change in the Plainland strategy \( T \) implies the following effect on Denseland expected welfare:

\[
dv = -\delta(e) V_4(q_t(t^l), G) \frac{dq^l}{dt^l} dt^l + [1 - \delta(e)] V_4(q_t(t^p), G) \frac{dq^p}{dt^p} dt^p
\]

(21)

where \( e \) is chosen optimally, that is, to satisfy our imposed incentive compatibility constraint \( e = e(T) \). The curve VV in Figure 2 shows strategies that give Denseland the value \( v = v^* \). This must have a negative slope at \( T = T^* \), since \( V_4^l \) and \( V_4^p \) are both negative. Thus the set of Pareto-superior equilibria, those strategies above WW and below VV, must be non-empty.

This type of equilibrium illustrates the New Protectionism discussed earlier. Over time the world economy experiences periods of liberal trade with Plainland possibly adopting more liberal policies than are in its short-run interest. Then occasional outbursts of protectionism originate from unpredictable developments in the political process in Denseland. During such periods Plainland responds by retreating to more protectionist policies. This carrot-and-stick policy, which resembles closely the type of equilibrium strategies considered by Green and Porter (1984) and Abreu et al (1990), might well involve a more protectionist response by Plainland than it would prefer from a short-run perspective. We can thus see that policies involving, e.g., reciprocity, that might appear protectionist, may actually be part of long-run
equilibrium strategies that are in the interests of the country pursuing the policy and indeed of its partner as well.

Figure 3 shows the alternative possibility where \( W(t_L^*, q_L(t_L^*)) > W(t_p^*, q_p(t_p^*)) \). Here the rents from trade restrictions are significant enough so that Plainland prefers Denseland to adopt the more protectionist policy. In this case the lower half-plane of tariff changes raise \( \omega \), and so WW must instead be as shown. Pareto improvements over the static solution are still possible, though in this case Plainland in effect trades a more liberal trade policy for less Denseland effort to obtain a liberal outcome.

C. The Average Level of Protection

Although the Denselanders want a low average Plainland tariff in some vague sense, it is not only the expected value of \( t \) that concerns them, and under some circumstances they may be willing to accept a change in Plainland policy that does raise the average level of \( t \). To see this, implicitly differentiate the expression for the expected Plainland tariff,

\[ E_t = \delta(e)e^L + [1 - \delta(e)]e^p \]

assuming that the Denselanders adjust \( e \) optimally according to: \( e = e(T) \). This yields the following.

\[ \frac{dt^p}{dt^L} = \frac{\delta - (t^p - t^L)\delta'E_t}{(1 - \delta) - (t^p - t^L)\delta'E_L}. \]  

(22)

Compare equations (21) and (22). From (21) it is clear that if \( V'(q(t), G)q'(t) \) is approximately the same when \( q = q^L \) as when \( q = q^p \) (that is, if a change in Plainland protection has about the same effect on Denseland welfare in each Denseland policy regime), then the slope of \( VV \) at \( T = T^* \) will approximately equal: \( -\delta/(1 - \delta) \). This is necessarily less negative than the right-hand expression in equation (22) provided that \( t^p \) exceeds \( t^L \) (that is, Plainland is protectionist.
when Denseland is protectionist), but not by enough to reverse the sign of the denominator. The line labelled TT in Figures 2 and 3 shows all policy pairs for which Et is the same as at T*.

The intuitive reason TT must cut VV from above, under the circumstances just mentioned, is as follows. From equation (21) a small movement downwards and to the right along VV requires the two tariffs to change in the proportion \(6/(1-6)\). This would keep Et unchanged if \(e\) were fixed. But \(e\) will not be fixed: it will fall because \(t^e\) is rising relative to \(t^p\). This change will have no first-order effect on \(v\) because the Denselanders have initially chosen \(e\) optimally, but it must cause a first-order rise in Et if \(t^p\) strictly exceeds \(t^L\).

<table>
<thead>
<tr>
<th>Protection Pattern</th>
<th>Low Rents</th>
<th>High Rents</th>
</tr>
</thead>
</table>
| uniform            | Denseland: liberal  
                       Plainland: liberal   | Denseland: liberal  
                       Plainland: protectionist |
|                    | or        |            |
| variable           | Denseland: liberal  
                       Plainland: liberal   | Denseland: protectionist  
                       Plainland: protectionist |
|                    | or        |            |
|                    | Denseland: protectionist  
                       Plainland: liberal   |                          |

Rents are high if they are large enough so that Plainland wishes Denseland to adopt a protectionist policy; otherwise they are low. The protection pattern is uniform if Plainland is protectionist when Denseland is (i.e., \(t^p > t^L\)) and if the effect of a change in Plainland policy has about the same effect on Denseland welfare in both Denseland regimes -- that is, when TT cuts VV from above. Otherwise the protection pattern is variable. Plainland is liberal if the repeated game equilibrium reduces Et relative to the static solution and protectionist if it raises Et; for Denseland, "liberal" and "protectionist" indicate analogous outcomes regarding \(e\).

Table 1. Protection in a Repeated Game Equilibrium Compared to the Static Equilibrium
In Figure 2, all potential Pareto improving equilibria feature \( e > e^* \) and all lie below TT, so that \( Et \) is less than at \( T^* \). In such a repeated game equilibrium both countries adopt policies that, on average, are less protectionist than at the static solution. In Figure 3, \( e < e^* \) at all potential Pareto improving equilibria, so that Denseland becomes on average more protectionist, but \( Et \) may either rise or fall, depending on the particular equilibrium that is chosen. If instead a change in \( t \) has sufficiently greater impact on Denseland welfare with \( q^* \) than with \( q^0 \), and/or if \( t^* \) exceeds \( t^0 \), TT will intersect VV from below and so will bisect the Pareto improving equilibrium set in Figure 2 rather than in Figure 3. The various possible outcomes are summarized in Table 1. Note that the entries along the diagonal of the table are probably of greater interest than those off of the diagonal. It is when rents are high, for example, that Plainland will wish to "punish" Denseland for choosing a liberal trade regime, so the protection pattern is less likely to be uniform.

D. Distributional Consequences

Suppose that the two countries do coordinate on a repeated-game equilibrium that is Pareto-superior in that expected social welfare is higher in both countries than in the static solution. What are the consequences for the welfare of specific individuals? Plainland is sufficiently plain that nothing is lost if we assume it to consist of identical individuals, all of whom consequently gain. But conflicts of interest are central to the way we have modeled Denseland, so it demands closer inspection.

The expected utility of individual \( i \) in Denseland is given by

\[
U(T, G, e, i) = \delta(e)u(q_i(t^i), G, i) + [1 - \delta(e)]u(q_e(t^E), G, i).
\]  

(23)

Now consider a movement from the static solution to a neighboring, Pareto-superior, equilibrium by imposing the change \( dT = (dt^i, dt^E) \) from \( T = T^* \). This has the following effect on individual \( i \)'s expected welfare.
\[
\begin{align*}
&dU(T, G, e, i) - \delta u_i(q^L, \cdot)q_i(t^L)dt^L + [1 - \delta]u_i(q^P, \cdot)q_i(t^P)dt^P \\
&+ [\delta u_c(q^L, \cdot) + [1 - \delta]u_c(q^P, \cdot)]dG \\
&+ [u(q^L, \cdot) - u(q^P, \cdot)]\delta'de
\end{align*}
\] (24)

The overall welfare effect consists of three components. The first line of (24) reflects the terms-of-trade effect for individual \(i\) of the change in Plainland tariffs, as analyzed in the standard theory of tariffs. The second term, the strategic-interface effect, reflects the welfare impact of the change in the politically linked nontariff economic policy in Denseland brought about by the change in Plainland's tariff structure. Finally, the last term in (24), the political-regime effect, shows how individual \(i\)'s expected utility responds to the altered probability distribution over Denseland trade policy regimes.

Let \(P^*, L^*, I^*\) and \(E^*\) denote the individuals in the static solution analogous to those depicted in Figure 1. These divide the Denseland population \([0, N]\) into five distinct groups potentially affected in diverse ways by a policy change. For concreteness, suppose the case shown in Figure 2, so that Plainland wishes Denseland to adopt the more liberal trade regime, and that \(dT\) both features \(dt^L < 0\) and \(dt^P > 0\) and implies that \(de > 0\). Table 2 summarizes the effects of such an equilibrium change on the three components of the changes in expected utilities of the various groups comprising the Denseland population. (The ambiguity of the direct effects for some of the groups follows from the fact that one outcome is becoming more liberal while the other is becoming less so).
<table>
<thead>
<tr>
<th>Population Group</th>
<th>([0, P^*])</th>
<th>((P^<em>, I^</em>))</th>
<th>((I^<em>, L^</em>))</th>
<th>((L^<em>, E^</em>))</th>
<th>((E^*, N))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terms-of-Trade Effect</td>
<td>?</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Strategic-Interface Eff.</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Political-Regime Effect</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 2. Welfare Consequences for Denseland of a Plainland Policy Change \((dt^c < 0, dt^f > 0)\) Implying \(de > 0\)

The table reveals a striking feature. The change in T from its static equilibrium value is being implemented to induce Denseland’s executive to secure wider support for a liberal trade regime. In this regard, the \((E^*, N)\) group in Denseland is a natural ally of Plainland and the \([0, P^*]\) group a natural enemy. But in the end both of these groups are affected in ambiguous ways. It is the middle part of the population, which doesn’t care much about trade policy at all, that unambiguously gains!

V. Denseland Policy Regimes

Thus far we have not specified the nature of the trade regimes between which the Denselanders are choosing, other than that neither regime allowed Denseland to capture the trade rents it generated. In this section we consider several concrete examples.

As a preliminary, we specify the Plainland economy in more detail. Let \(\gamma\) be the Plainland analog of Denseland’s parameter \(\alpha\), \(a^*\) and \(b^*\) equal the Plainland endowments of labor and
human capital respectively, $X$ denote Plainland exports of $a$, and let $p = q - t$. Then $pX = pa^* - \gamma[pa^* + b^* + tX]$, so that
\[
X(t,q) = \frac{(1-\gamma)pa^* - \gamma b^*}{p + \gamma t}.
\]  
(25)

From (6) and (3) the Denseland demand for imports is
\[
M(q) = \alpha \frac{b}{q} - (1-\alpha) a.
\]  
(26)

Since we have assumed that Plainland is analogous to Denseland, except that its administration is unconstrained in its ability to implement policies and it captures all trade rents, maximizing Plainland welfare is equivalent to maximizing the following indirect utility function.
\[
W(t,q) = p^{-\gamma}[pa^* + b^* + tX(t,q)]
\]  
(27)

If the Plainland administration has free rein to pick any point on the Denseland import demand curve at which to trade, it will pick the $t$, and associated $q$, that maximizes welfare as expressed in (27), subject to the constraint that the supply of exports indicated in (25) equal the demand for imports in (26). Denote these values, the solution to the classical optimum tariff problem, as $t^*$ and $q^*$. Now consider alternative regime choices for Denseland.

A. Denseland Tariffs

In this case, the Denseland choice of trade regime is between two tariff levels, $s^l$ and $s^r$, with $s^l < s^r$. Thus the regimes may be described as $q^l = s^l + p^l + r^l$ and $q^r = s^r + p^r + r^r$, where each $r$ denotes a Plainland export tax in the respective state, so that each $r + s = t$, the price wedge. (To remain consistent with our earlier assumption that Denseland captures none of the rents from trade restrictions, we must either assume (awkwardly) that Denseland remits all tariff revenue to Plainland, or assume (less awkwardly) that Denseland implements its policy by inducing Plainland to adopt VERs based on price restrictions rather than on quantitative restrictions).
Consider the static solution. Suppose Plainland adopts the strategy pair \((r^l, r^p) = (t^o - s^l, t^o - s^p)\), so that \(T^* = (t^o, t^o)\). This will give Plainland its optimum tariff position for each Denseland policy choice, so it must be the best strategy for Plainland. If Plainland does follow this strategy, the actual Denseland policy choice is irrelevant to the Denseland administration, which will therefore make no attempt to influence it and so will set \(G = G^o\). The static solution is therefore \(T = T^*, e = e^o\). Furthermore, there can be no subgame perfect equilibrium other than repeated play of the static solution, because Plainland would always wish to defect to the latter from any other strategy.

Denseland tariffs therefore generate a limiting case. But this is critically dependent on the assumption that all rents go to Plainland. If the Denselanders retained all or part of the revenue generated by their tariffs, Plainland would not be able to formulate a strategy that would lead to the optimum tariff in all cases. The static solution would accordingly feature conditionally optimal Plainland tariffs, and an equilibrium strategy that made both countries better off would presumably exist. In sum, if tariffs are the Denseland policy tool, allowing Plainland to capture all rents in effect makes Denseland policy completely passive.

B. Quantitative Restrictions

Suppose now that the Denseland regime choice is between two quantitative restrictions on imports, \(Q^l\) and \(Q^p\), with \(Q^l > Q^p\). As the Denselanders capture none of the rents from the trade barriers, these can be regarded as VERs. However this may not be necessary, if all the equilibria that emerge feature all rents going to Plainland, even if we do not continue to assume at the outset that such will be the case. We note below whenever this is so. Let \(\tilde{q}^l\) and \(\tilde{q}^p\) denote the Denseland relative prices consistent with each of the quotas just binding: \(M(\tilde{q}^l) = Q^l, M(\tilde{q}^p) = Q^p\). The Plainland policy choice is sensitive to the magnitudes of these prices, with three qualitatively distinct possibilities.
(i) $q^o > \bar{q}^p > \bar{q}^L$. Neither Denseland quota is as restrictive as the level of trade with the Plainland optimum tariff. In the static equilibrium, therefore, Plainland simply imposes its optimum tariff regardless of the Denseland regime choice, and the Denseland government, realizing that this is so, chooses its optimum fiscal policy independently of its effect on the liberal-trade coalition: $T^* = (t^o, t^o), \; \epsilon^* = \epsilon^o$. This is basically the same as Denseland tariffs discussed above. However, one important difference is that now it does not matter whether the Denselanders are assumed to receive no rents: Plainland can appropriate them in full.

(ii) $\bar{q}^p > \bar{q}^L > q^o$. Now both Denseland quotas are more restrictive than what Plainland wants. The best Plainland can do, therefore, is to set tariffs to capture all the quota rents without restricting trade any more than is necessary:

$$\bar{q}^L = p(l^L + l^L)$$

$$\bar{q}^P = p(l^P + l^P)$$

(28)

define the appropriate tariffs, where $p(l)$ solves the equilibrium condition $X(t, p + t) = M(p + t)$.

The static solution is $T^* = (l^L, l^P), \; \epsilon^* = \epsilon(T^*)$. Note that, in this infinitely repeated equilibrium, Plainland is relatively protectionist when Denseland is, and Plainland prefers Denseland to choose the relatively more liberal regime. Also, it is again unnecessary to assume that Denseland gets no rents: Plainland acts to assure that this will be so in any event.

There exist alternative equilibria that can make one or both countries better off. These feature a Plainland policy vector that "rewards" a liberal Denseland regime choice more than does $T^*$ and a Denseland $e$ that is greater than $\epsilon^*$. The size of the set of such equilibria is sensitive to whether we impose as a maintained assumption the requirement that Denseland receives none of the rents.

Suppose first that we do impose this as an assumption. Then in no distinct alternative equilibrium can either element of $T$ be less than the corresponding element of $T^*$: the
Denseland quotas are both just binding in the static equilibrium, so reductions in Plainland tariffs are meaningless and cannot "reward" Denseland. Instead this must be done by increasing $t^p$. Thus the alternative equilibria all differ from the static one in that they feature more Plainland protection whenever Denseland adopts the protectionist regime, but a lower probability that this will happen.

Since Plainland prefers the more liberal Denseland regime, Figure 2 is relevant. Potential equilibrium Plainland policies are constrained to points north and west of $T^*$ by the assumption that Denseland captures no rents. As is clear from the figure, this rules out all equilibria that are Pareto improvements over the static equilibrium. Any departure from the latter must reduce Denseland's expected welfare and raise the average level of Plainland protection, even if it does render the liberal Denseland trade regime more likely.

This situation is of interest because, although Plainland prefers more liberal trade in each outcome, it is nonetheless in the country's interest to pursue over time a reciprocity policy that both sometimes increases protection on a period-by-period basis and that also increases the average level of protection over time! Plainland wishes to change the structure of its intertemporal trade policy to induce the Denseland government to alter its domestic policies in such a way as to strengthen the hand of the liberal-trade coalition in Denseland. Under present circumstances, the only way Plainland can change its protective intertemporal structure in this way is to make its average level more protective. Table 3 summarizes the consequences for the components of expected welfare of different individuals in Denseland of a small departure from the static equilibrium to such a repeated-game equilibrium with a larger $t^p$. 

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### Table 3. Welfare Consequences in Denseland of $dt_r > 0$, all rents captured by Plainland

<table>
<thead>
<tr>
<th>Population Group</th>
<th>$(0,P^*)$</th>
<th>$(P^<em>,I^</em>)$</th>
<th>$(I^<em>,L^</em>)$</th>
<th>$(L^<em>,E^</em>)$</th>
<th>$(E^*,N)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terms-of-Trade Effect</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Strategic-Interface Eff.</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Policy-Regime Effect</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Note that the group $(E^*,N)$, Plainland’s natural ally in Denseland in seeking after a liberal trade regime, fares quite badly as a result of Plainland’s efforts to bring this about. In particular, this group will suffer a terms-of-trade deterioration, despite the move to the trade regime it prefers. The only source of gain is the increased size of the liberal trade coalition.

If we do not assume that Denseland captures no rents, additional equilibria may emerge. For now Plainland might reward Denseland by lowering $t^L$, not to increase trade, but to transfer to Denseland some of the rent generated by the quota. This introduces the possibility of Pareto improving equilibria. In addition, all equilibria consistent with the previous paragraphs remain available, because in those the Plainland policy itself served to extract all rent. In any event, it is of interest to note that Plainland now uses a reciprocity policy, at least in part, to shift rents away from itself to induce Denseland to alter its domestic policies to strengthen its liberal-trade coalition.

(iii) $\bar{q}^P > q^o > \bar{q}^L$. Now Plainland, in the static solution, implements its optimum tariff whenever the Denselanders adopt the more liberal regime. With the more protectionist Denseland regime in place, the best the Plainlanders can do is to set a tariff that just extracts the rent without restricting trade any more. Thus in this regime Plainland adopts the tariff called for in (28) above.
There are alternative equilibria of the infinitely repeated game that make both countries better off than the static solution. But now these alternatives must include equilibria in which \( t^t \) is lower than in the static equilibrium, and some of these equilibria must be attainable regardless of whether we require by assumption that Denselanders capture no trade rents. Since in the static equilibrium Plainland imposes its optimum tariff when the Denselanders have their more liberal regime, a small reduction in that tariff will have a zero first order effect on Plainland welfare. But it will have a positive first order effect on Denseland welfare and accordingly will induce a positive first order rise in \( e \). Table 4 summarizes the expected welfare effects for groups in Denseland. Again, it is the group that prefers both a larger government and liberal trade that unambiguously gains.

<table>
<thead>
<tr>
<th>Population Group</th>
<th>([0,P^*])</th>
<th>((P^<em>,I^</em>))</th>
<th>((I^<em>,L^</em>))</th>
<th>((L^<em>,E^</em>))</th>
<th>((E^*,N))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terms-of-Trade Effect</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Strategic-Interface Eff.</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Policy-Regime Effect</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 4. Welfare Consequences in Denseland of \( dt^t < 0 \)

The various cases considered in this section collectively suggest that the intertemporal aspects of trade policy become important when the static solution is characterized by differences across states. But whether this consideration mandates more protection or less depends upon circumstances.
VI. Concluding Remarks

National policy makers pursue trade policy aggressively to improve national welfare, but do so with due regard for the wishes and powers of special interest groups which constrain the executives' ability to determine policy. (This is the "modern mercantilism" of the paper's title, to be contrasted with "traditional mercantilism" that seeks to increase the power of the state). Voters may elect governments but they do not vote on specific policies. We analyzed when international strategic behavior by such policy makers would result in a more liberal trade order and when it would not. Several implications deserve mention.

- An executive with less than complete control over trade policy has an incentive to attempt to increase its control by adjusting other policies that are politically linked to trade policy.
- When the other policy is fiscal policy, and when the poorer part of the population competes with imports, government spending will be greater than what is optimal in itself (i.e., ignoring political linkages).
- Since the welfare implications of trade policy are determined in part by other countries' trade policies, politically linked domestic policies will be influenced by the structure of foreign trade policies.
- A country able to control its own trade policies in response to foreign policy can structure those responses to influence the foreign political process by inducing the foreign government to alter politically linked policies.
- In particular, a country may induce the executive in its trading partner to change politically linked policies to make liberal trade policies more likely political outcomes, thereby raising ex ante social welfare in both countries. The changed structure will involve policy responses that are suboptimal in an ex post sense. This change in policy may also appear protectionist when the intertemporal context in which it is pursued is ignored.
Because of the political linkage, a change in the structure of policy responses (i.e., in its reciprocity policy) affects the welfare of residents in the trading partner through three distinct channels. First, the altered responses cause direct ex post terms-of-trade effects as in traditional theory. Second are the strategic-interface welfare effects of the induced change in politically linked policy. Finally, welfare is influenced by the fact that the change in politically linked policies also alters the probability of a liberal-trade policy regime.

To make our analysis manageable we have made many simplifying assumptions, three of which deserve to be singled out as indicating avenues for worthwhile future work. First is the assumption that the executive can control trade policy only partially (in one of the countries) but has complete control over the second economic policy. While in reality there are of course economic policies that most governments can control more effectively than they can control trade policies, there are also other economic policies for which the reverse is true. Second is the extreme asymmetry between the abilities of the two governments to control trade policy. While such asymmetry is in fact very important, so too is the fact that all governments are sensitive to links between internal politics and external negotiations. Finally is the assumption that the government with the greater degree of control over trade policy captures all of the rents from both countries' trade policies. We have tried to indicate where and how in our analysis this assumption was significant, but it would clearly need to be abandoned for a symmetric analysis.
Appendix I. Trade Policy and Individual Welfare

This appendix investigates how, given the fiscal policy, a change in Denseland's trade policy influences the welfare of a typical citizen of that country. To this end we derive the elasticity of \(\tau\) with respect to \(q\), which is just the average propensity to import, if the two instruments are linked by the need to support a given fiscal policy:

\[
\frac{q}{\tau} \phi(q, G) = \frac{\alpha(qa + b) - qa}{qa + b} = \mu \tag{A1}
\]

Then,

\[
u_q(q, G, i) = (1 - \tau)\lambda q^{-\alpha} \left[(1 - \alpha)qa - \alpha b_i - \frac{\tau}{1 - \tau} (qa_i + b_i)\mu \right] \tag{A2}
\]

\[
= (1 - \tau)\lambda q^{-\alpha} \frac{a}{b} \left[\frac{B}{b - \tau} - \frac{A}{a - \tau} \right] - N\phi(i) \tag{A3}
\]

where \(A = a_G + \alpha(1 - \tau)(qa + b)/q\), national demand for good \(a\), and similarly \(B\) denotes national demand for \(b\). Thus,

\[
u_q(q, G, i) \geq 0 \iff \frac{B}{b - \tau} > \frac{A}{a - \tau} \iff \Phi(q) > N\phi(i). \tag{A3}
\]

Because the country is an \(A\) importer under all policy choices, \(A/a > 1 > B/b\). Thus, with \(\tau\) constrained to lie between zero and unity, two situations are possible depending upon initial conditions.

(i) \(A/a > 1 > B/b \geq \tau\). Then \(1 > \Phi(q) > 0\) for all \(q\).

(ii) \(A/a > 1 \geq \tau \geq B/b\). Then \(0 \geq \Phi(q)\) for all \(q\).
In case (ii), \( u_i(q, G, i) < 0 \) for all \( i \): the government sector is so large that the increase in the cost of providing \( G \) caused by a rise in \( q \) is sufficient to make everyone worse off, even those \( a \)-owners who stand to gain from the increased protection itself. Under these circumstances, no one in the economy would favor a protective policy, and the issues we wish to examine will not arise. For this reason we assume case (i).

\( \Phi(q) \) determines the critical value for how individuals are affected by changes in protection. The responsiveness of this value to the size of \( q \) itself will matter for what follows, so calculate the elasticity of \( \Phi(q) \):

\[
\frac{\Phi'}{\Phi} = \frac{(1 - \alpha) \frac{qa}{\tau b} - \mu}{\frac{B}{b} - \tau} + \frac{\alpha \frac{b}{\tau qa} + \mu}{\frac{A}{a} - \tau}
\]

(A4)

\[
- \frac{qa}{qa + b} \left[ \frac{B}{b} + \frac{\tau}{\tau - \frac{A}{a}} + \frac{\frac{A}{a} - \tau + \frac{A b}{a^2 q}}{\frac{B}{b} - \tau} \frac{A}{a - \tau} \right]
\]

This expression is of indeterminate sign. There are thus two cases to analyze, depending upon whether \( \Phi \) increases or decreases in \( q \). But since the analysis in the two cases is very parallel, we discuss only one in the text. Now the second term in brackets in the above expression is always positive, and the first term will be positive as well if

\[
\frac{B}{\tau b} + 1 > \frac{A}{a}
\]

(A5)

Under present assumptions the left-hand side of this inequality exceeds two. Thus a sufficient, but far from necessary, condition for \( \Phi \) to be increasing in \( q \) is that less than half of the national consumption of good \( a \) be imported. As this seems a fairly weak requirement, we assume that \( \Phi \) is increasing in \( q \) and leave to the reader the parallel case where this is not so.
Given our assumptions, \( 1 > \Phi(q^P) > \Phi(q^L) \). In Figure 1, \( P \) and \( L \) denote individuals whose utility is minimized at \( q^L \) and \( q^P \) respectively: \( \Phi(q^L) = N\phi'(P) \) and \( \Phi(q^P) = N\phi'(L) \).

Appendix II. The Median Voter

The text assumed that the executive employed a Benthamite social welfare criterion which here amounts to maximizing the welfare of the representative individual — the individual whose ownership of \( b \) equals the per-capita endowment. If one were to stipulate that the executive is chosen in an election in which voters choose among candidates on the basis of the objective functions they will employ if elected, it would perhaps be more attractive to assume that the criterion is instead the welfare of the median individual. Given the role played by Plainland, nothing would change if we were to assume a uniform distribution of \( b \), so that all Plainlanders are identical and the median coincides with the representative individual. But the Denseland model has more structure, and such a change in criteria would have implications. This appendix briefly discusses them. There are two significant implications.

1. Optimal fiscal policy. Suppose that, in (7), we set \( V(q,G) \) equal to \( u_{m^*} \) the utility of the median individual. Then the first-order condition implied by the altered version of (8) will be

\[
N\phi' = \frac{qa + b_m^*N}{qa + b}
\]

(A6)

where \( b_m^* \) denotes the \( b \)-ownership density of the median individual. Thus, unless the median individual coincides with the average (\( b_m = b/N \)), the welfare-maximizing \( G \) depends upon \( q \), that is, it is no longer independent of trade policy.

The right-hand side of (A6) will be increasing or decreasing in \( q \) according as the median individual possesses less than or more than the average density of \( b \) ownership. That is, the protectionist regime will call for a smaller optimal level of \( G \) than the liberal regime if the median individual is relatively poor.
The choice of fiscal policy is now more complicated. Since the trade regime choice is stochastic, fiscal policy must be evaluated with regard to its effect on the expected welfare of the median individual. But the choice of fiscal policy itself changes the probabilities associated with the choice of trade regime, through its effect on e. None of this is fundamental, but it is cumbersome, and that is why we instead analyze the case where the criterion is the welfare of the representative individual.

2. Line-up of coalitions. Recall that in Figure 1 individuals I and E determine three distinct pressure groups – those individuals who want more government and liberal trade, those who want less government and liberal trade, and those who want more government and protection. The assumption that the poorer part of the population competes with imports obviously determined that this was the line up. An additional factor emerges if the government maximizes the welfare of the median individual rather than that of the representative individual. Now individual E must be replaced by individual M, the median owner of b. If M, like E, is to the right of I in Figure 1, we still obtain the same line up. But if M is instead to the left of I, the middle pressure group will instead be one favoring less government and more protection. Once this change is made, however, the subsequent analysis of the paper proceeds straightforwardly.

If the government looks after the welfare of the median individual we obtain both more cumbersome analysis and a richer array of possibilities than if it looks after the representative individual. But the additional possibilities are easily appreciated once they are pointed out, so we prefer in the text to avoid the more cumbersome analysis.
Footnotes

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1Of course, the literature contains several strands that depart from this depiction. For instance, Johnson’s (1953-54) analysis of the optimum tariff takes into account the possibility that a trading partner might simultaneously pursue a trade policy of its own, as do Mayer’s (1971), Reizman’s (1982), and Dixit’s (1987) analyses of bargaining over tariffs. Likewise, the literature on customs unions takes into account the interdependence between the trade policies of different countries, and the strategic trade policy literature occasionally considers dynamic aspects of interactions between governments.


3However, for the new protectionism, see Staiger and Tabellini (1987), Ethier and Fischer (1987) and Ethier (1991b); for multiple policies see Mayer and Riezman (1989).

4This paper does not attempt to endogenize the choice of how to dispose of such rents. See Ethier (1991a, 1991b).

5We might refer to a model with this production structure as a "specific-commodities model," since it has the same structure as the familiar specific-factors model of international trade theory, but with the roles of factor and commodity reversed.

6The policy instrument can be thought of as a voluntary export restraint (VER), since we assume that it generates no revenue for the home government. This type of instrument is most characteristic of contemporary trade policy in the industrial economies and will also simplify
some of the subsequent algebra. The no-home-rent assumption is for the most part innocuous or serves to rule out special cases of little inherent interest. This is not always so, however, and when it is not we will attempt to point out the effects of the assumption. We adopt the simplification that the policy is unilaterally implemented by the home administrative apparatus, without any negotiation with foreign authorities; in this sense the adjective "voluntary" is misleading, as it sometimes is in reality.

Voters do not determine policy, either directly by voting on it or indirectly by voting for candidates precommitted to specific policy packages. Perhaps the government is democratic, and the executive is elected before voters know exactly what issues the executive will need to decide once in office: they vote according to the objective functions of the candidates. On this interpretation, we can regard the Benthamite criterion as resulting from an earlier election. We show in Appendix II how our analysis would change with a particular alternative criterion. But the process by which the criterion is determined is beyond the scope of this paper. Also, we are more concerned to show that apparently protectionist policy can be consistent with a classical welfare function than in the choice of that function.

Assuming, of course, that the country has no monopoly power in world markets.

The shape of \( \delta(e) \) reflects the degree to which the executive can control trade policy. If that control is complete and independent of political pressures, \( \delta(e) = 1 \).

Two technical assumptions guarantee that the individuals be positioned as shown in the figure. See Appendix I for details.

In our formulation, a change in \( G \) influences \( e \) by altering the sensitivity of an individual's tax burden to the trade regime. In fact, our model also suggests the potentially more significant possibility of the executive bargaining directly with groups of individuals to institute a larger \( G \) in exchange for the groups' adherence to the liberal trade position. Individuals near \( I \) would find such a deal attractive since they care little about trade policy but would benefit significantly from a larger \( G \). We do not incorporate this possibility, however, because to do
so would require a model of the bargaining process, and we already have a link between $G$ and $e$ without it. Such a consideration simply reinforces our argument.

12Because of our assumption that Plainland captures all rents arising from trade restrictions, there is no presumption that Plainland authorities would prefer that Denseland adopt the more liberal trade policy.

13For example, all the world waits for American trade negotiators to obtain fast-track authority.


