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INCOME DISTRIBUTION AND OPTIMUM TARIFF*

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Abstract: This paper examines the implications of unequal income distribution among individuals on optimum tariff. It derives new optimum tariff formulas and shows that the distributional characteristics of individuals' shares of imports and revenue distribution are crucial in determining the optimum tariff rate. It also shows that unequal income distribution has different implications for trade policy; for example, a small country's optimal policy in general is not free trade. The paper also examines the implications of a number of social welfare functions on trade policy and discusses the symmetry between export and import taxes.

1. INTRODUCTION

Tariffs should not be used to play the distributional role when a government has access to optimal lump-sum transfers. This is also true in the "second-best" situation where the lump-sum transfers are not feasible but the government can levy the Diamond-Mirrlees optimum commodity taxes. [See Diamond and Mirrlees (1971), and Dixit (1985).] However, in the "third-best" situation where no domestic commodity taxes are feasible, there are distributional and revenue-raising arguments for tariffs even for a small open economy. This has been forcefully argued by Heady and Mitra (1987). For many LDCs, the high cost of administration and the difficulties in preventing tax evasions often restrict their abilities to impose optimal commodity taxation. In particular, the limited participation of agriculture in markets further hampers the use of commodity taxes on that sector. Trade taxes may be the only practical instrument left for these countries.

In the "third-best" situation where no commodity taxes are feasible, what is the optimum tariff rate when incomes are unequally distributed among households? The present paper tries to address this question and fill a gap in the optimum tariff literature which has so far neglected unequal income distribution. Although there have been a number of papers introducing multi-households in the tariff literature, they have considered a variety of issues different from the one examined in the present paper. [See, e.g., Graaff (1949), Bhagwati and Johnson (1961), Rao (1971), Mayer (1981), Turunen (1987), and Diewert, Turunen-Red and Woodland (1989).]

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In this paper, we examine the implications of unequal distribution of income on optimum tariff. In a two-good economy with different tastes and incomes among individuals, we first derive the condition under which a small tariff improves an individual's utility. This is shown to depend upon the individual's shares of imports and tariff revenue distribution. The paper then derives the condition under which a small tariff improves social welfare. This is shown to depend upon the distributional characteristics of individuals' shares of imports and revenue distribution. The optimal tariff formulas are then derived. The consideration of income distribution yields quite different implications for tariff policy. It will be shown that the optimal policy tends to call for an import tariff or subsidy depending upon whether the imported good is close to being a luxury or a necessity. Thus even in the small country case, the optimal policy in general is not free trade, contrary to the traditional result. It is inspiring to observe that many countries—especially the underdeveloped—have high import tariffs on luxuries and often provide import subsidies to necessities. This type of tariff structure is in line with the optimal policy prescribed in this paper which takes into account the distributional equity. Nevertheless, it is not difficult to find examples of tariff structure that are quite at odds with equity consideration.[1]

The paper also discusses the conditions under which our formulas degenerate to the traditional one-consumer case. It also examines the implications for optimal trade policy with a number of social welfare functions. Finally, the paper discusses the symmetry between export and import taxes and shows that the optimal trade policy can be alternatively determined by the distributional characteristics of individuals' shares of exports and revenue distribution.

Section 2 of the paper develops the model and derives the optimal tariff formulas for individual households and for the whole economy. Section 3 examines the case of continuous income distribution. Section 4 examines the case of export tax and discusses the symmetry between export and import taxes. Finally some concluding remarks are provided in Section 5.

2. THE MODEL

Consider a two-good, two-country model of trade in which both countries (home and foreign) produce goods 1 and 2. Assume that the home country exports good 1 and imports good 2 which is subject to a trade tax. With good 1 chosen as the numeraire, the relative domestic price of good 2, p $(=p_2/p_1)$, is related to the foreign price p^* by the tariff rate t:

[1] For example, as pointed out in Bovard (1990), the U.S. Tariff Code now occupies two hefty volumes with 8,753 different rates. Among them, mink furs are duty free but a polyester sweater has a 34.6% tariff. Lobster is duty free but infant food preparations carry a 17.2% tariff. Truffles are duty free but fresh broccoli has a 25% tariff. Footwear valued at no more than \$3 a pair with rubber or plastic outer soles and uppers carries a 48% tariff, but if it is valued at more than \$12, the tariff is only 20%.

$$p = p^*(1+t)\,. \tag{1}$$

To focus on income distribution and optimum tariff, we follow Bhagwati and Johnson (1961) by assuming that each individual either has some fixed endowments of both goods (q_1^i and q_2^i), or can produce them in variable quantities. Let y^i be the income of the ith individual:[2]

$$y^i = q_1^i + pq_2^i + b^iR\,, \tag{2}$$

where b^i is his nonnegative share of tariff revenue and b^iR is his income from tariff revenue distribution. The tariff revenue R is equal to tp^*M, where M is home country's imports of good 2. If an import subsidy is imposed, t is negative and so is R. The term b^iR then is the ith individual's contribution to the cost of subsidy. For ease of exposition, we shall use the term "tariff" to include both tariff and subsidy, the latter being a negative tariff. Moreover, b^i will be called "the ith individual's share of tariff revenue" which will mean his share of subsidy cost if tariff revenue is negative.

We assume here that the b^i's are predetermined constant. As shown in Chang and Michael (1988), if the distributive shares of tariff revenue are to be optimally chosen along with the tariff rate in the two-country, many-consumer model, social optimum requires that tariff revenue be distributed in such a way that the marginal social utilities of income are the same among all individuals. In this case, the Samuelsonian aggregation conditions are satisfied, and the optimal tariff formula degenerates to the one known for the traditional one-consumer case. In practice, however, it is difficult to choose revenue distribution optimally since the information required is enormous and the problem of incentive compatibility arises. We also assume here that the Diamond-Mirrlees optimum commodity taxes are not feasible. Thus in the present paper, we are examining the third-best case of optimum tariff in which the revenue distribution is determined outside our model by political processes, government's decisions, or some other mechanisms.

The indirect utility function of the ith individual is given by

$$v^i = v^i(p, y^i)\,, \tag{3}$$

which, upon differentiation, yields

$$dv^i = v_p^i dp + v_y^i dy^i\,, \tag{4}$$

where $v_p^i \equiv \partial v^i/\partial p$ and $v_y^i \equiv \partial v^i/\partial y^i$. Using the definition of R and $dp = (1+t)dp^* + p^*dt$, and differentiating (2), we obtain

$$dy^i = [q_2^i(1+t) + b^itM]dp^* + (q_2^i + b^iM)p^*dt + b^itp^*dM\,, \tag{5}$$

[2] Johnson (1959) has shown that the income earned by a factor owner at any particular domestic price ratio between importable and exportable can be equated with the sum of the real value of the quantities of the two commodities which would be produced with his factor at that price ratio. See also Bhagwati and Johnson (1961, p. 235) for a similar presentation of individual's income.

where the production efficiency condition $dq_1^i + pdq_2^i = 0$ has been used. Substituting (5) in (4) and using Roy's identity, $v_p^i = -c_2^i v_y^i$, where c_2^i is the ith individual's consumption of good 2, we obtain

$$dv^i = v_y^i\{[(q_2^i - c_2^i)(1+t) + b^i tM]dp^* + [q_2^i - c_2^i + b^i M]p^* dt + b^i tp^* dM\}\,. \quad (6)$$

Assume that the foreign country does not impose any tariff and let its imports be M^*. With many consumers and with arbitrary income and revenue distribution, the import demand function for the home country becomes very complicated to specify. Its properties depend crucially upon the income distribution and the distribution of tastes. For the sake of tractability, we assume that

$$M = M(p^*, t)\,, \qquad M^* = M^*(p^*)\,, \quad (7)$$

and $M_t \equiv \partial M/\partial t < 0$.[3] Equilibrium in the balance of trade requires

$$p^* M(p^*, t) = M^*(p^*)\,. \quad (8)$$

Using (7) and (8), we have

$$dp^* = p^* M_t dt / M\Delta\,, \quad (9)$$

$$dM = (\varepsilon^* - 1) M_t dt / \Delta\,, \quad (10)$$

where $\varepsilon \equiv -(p^*/M)(\partial M/\partial p^*)$, $\varepsilon^* \equiv (p^*/M^*)(\partial M^*/\partial p^*)$, and $\Delta \equiv \varepsilon + \varepsilon^* - 1$. Δ is assumed to be positive by stability requirement. Substituting (9) and (10) into (6), we obtain

$$dv^i = (p^* v_y^i/\Delta)\{(b^i - \theta^i)M\Delta + [b^i t\varepsilon^* - \theta^i(1+t)]M_t\}dt\,, \quad (11)$$

where $\theta^i \equiv (M^i/M) = (c_2^i - q_2^i)/M$. θ^i is the ith individual's share of market excess demand for good 2. In general, some θ^i may be negative. This is more likely the higher is the value of p. For simplicity, we assume $\theta^i > 0$ for all i. Thus θ^i is the ith individual's import share.

We first examine the effect of a tariff on the welfare of an individual. In the many-consumer model, the offer curve of a country may exhibit unusual shape. Thus there may exist multiple equilibria. We therefore consider only the situation where a small tariff or subsidy is imposed so that the economy departs from an initial free trade state. By evaluating (11) at $t = 0$, we obtain $dv^i/dt \gtreqless 0$ if and only if $b^i - \theta^i \gtreqless \theta^i M_t/M\Delta$. If the home country is small, then $\varepsilon^* = \infty$ and $\Delta = \infty$. We have

PROPOSITION 1. *Assume that $M_t < 0$. In the small country case, an individual will be better or worse off as a result of a small tariff depending upon whether his share of tariff revenue distribution is greater or less than his share of imports. In the large country case, an individual is better off if his share of tariff revenue is*

[3] (7) is the common specification for the one-consumer case (see Jones (1969)). Bhagwati and Johnson (1961) have shown that in the two-consumer case, M_t can be positive if the substitution effects in production and consumption are weak, and if the individual who has a higher share of tariff revenue than his share of imports also has a higher marginal propensity to consume the importable.

greater than his share of imports, but his welfare may also increase even in the opposite case.

Assuming that the second-order conditions are satisfied in maximizing v^i, we can obtain the optimum tariff rate for the ith individual, t^i, by setting $dv^i/dt=0$ in (11):

$$t^i = \frac{\theta^i/b^i - (M\Delta/M_t)(1-\theta^i/b^i)}{\varepsilon^* - \theta^i/b^i} . \tag{12}$$

If $\theta^i = b^i$, then $t^i = 1/(\varepsilon^* - 1)$ which is the traditional optimum tariff formula for an economy with a representative consumer.

The literature on the political economy of tariff formation (see, e.g., Hillman (1988) and Magee, Brock and Young (1989)) tries to determine the optimal tariff rate for an entire group of factor owners, such as workers or capitalists, or for an individual with a certain mix of factor ownership. The main difference between this literature and the present paper is that people differ from each other with respect to factor ownership in the former while they differ with respect to commodity ownership in the latter.

Next we examine the social optimum tariff. Assume the following individualistic social welfare function:

$$W = W(v^1(p, y^1), v^2(p, y^2), \ldots, v^n(p, y^n)) , \tag{13}$$

where n is the number of individuals. The change in social welfare is $dW = \sum_{i=1}^{n} (\partial W/\partial v^i) dv^i$ which, upon substitution from (11), yields

$$dW = (p^*/\Delta)\{(D_b - D_\theta)M\Delta + [D_b t\varepsilon^* - D_\theta(1+t)]M_t\} dt , \tag{14}$$

where $D_\theta \equiv \sum_{i=1}^{n} s^i\theta^i$, $D_b \equiv \sum_{i=1}^{n} s^i b^i$, and $s^i \equiv (\partial W/\partial v^i)(\partial v^i/\partial y^i)$. s^i is the ith individual's marginal social utility of income. Since $\sum_{i=1}^{n} \theta^i = \sum_{i=1}^{n} b^i = 1$, D_θ and D_b are weighted averages of individuals' marginal social utilities of income, with their shares in imports and tariff revenue as the respective weights. We shall call D_θ and D_b "the distributional characteristics of individuals' shares of imports and revenue distribution", respectively. The value of D_θ tends to be high if an individual that has a high marginal social utility of income also has a large share of imports. Similarly, D_b tends to be high if an individual that has a high marginal social utility of income also has a large share of revenue distribution.

In view of the similarity between (11) and (14), we readily obtain the aggregate version of Proposition 1:

PROPOSITION 2. *Assume that $M_t < 0$. A small import tariff will increase or decrease a small country's welfare depending upon whether D_b is greater or less than D_θ. It will increase a large country's welfare if D_b is greater than D_θ but may not decrease its welfare in the opposite case.*

The social optimum tariff formula can be obtained by setting $dW/dt = 0$ in

(14):[4]

$$t = \frac{D_\theta/D_b - (M\Delta/M_t)(1 - D_\theta/D_b)}{\varepsilon^* - D_\theta/D_b}. \tag{15}$$

The significance of distributional equity in affecting a country's optimum tariff rate is evident in the above formula. The following special case reduces (15) to the traditional optimum formula:

PROPOSITION 3. *If* $D_b = D_\theta$ *then* $t = 1/(\varepsilon^* - 1)$.

Two sets of conditions ensure $D_b = D_\theta$: $\theta^i = b^i$ or $s^i = s^h$, $i, h = 1, \ldots, n$. The first set equates the individuals' shares of tariff revenue to their shares of imports. When this is satisfied, the individuals' shares of tariff revenue are also equal to their shares of exports. From the individual budget constraint, we have $y^i = q_1^i + pq_2^i + b^i tp^* M = c_1^i + pc_2^i$. Let the ith individual's exports be $X^i \equiv q_1^i - c_1^i$ and his exports share be $\lambda^i \equiv X^i/X$. Then the above budget constraint and the balance-of-trade condition $p^* M = M^*$ (where $M^* = X$) imply that

$$\theta^i = \lambda^i/(1+t) + tb^i/(1+t). \tag{16}$$

θ^i is a weighted average of λ^i and b^i. The first set of conditions is therefore equivalent to $b^i = \lambda^i$. In this case, the individuals are all self-sufficient in the sense that their balances of trade (evaluated at world prices) are all in equilibrium ($q_1^i + p^* q_2^i = c_1^i + p^* c_2^i$). Each individual contributes $tp^* M^i$ to the government but also receives the same amount in revenue distribution. In the extreme case where there is only one individual, the above self-sufficient condition is obviously satisfied.

The second set of conditions $s^i = s^h$, i, $h = 1, \ldots, n$, can be satisfied if ideal transfers can be made. Samuelson (1956) proved that if ideal transfers can be made to ensure the equality of all individuals' marginal social utilities of income, then an individualistic social welfare function can yield well-defined social indifference curves. The economy then can be aggregated into one representative consumer and the optimum tariff formula reduces to the familiar one-consumer case.

The second set of conditions can also be satisfied under some special social welfare functions. Consider first the case where W is a Benthamite so that $W(v^1, v^1, \ldots, v^n) = \sum_{i=1}^n v(p, y^i)$, where it is assumed that $v(p, y^i) = v^i(p, y^i)$ for all i. Since s^i is equal to v_y, we obtain, under the assumption of positive marginal utility of income, that the ranking of s^i is determined by the reverse ranking of y^i: $s^i \gtreqless s^h$ if $y^i \lesseqgtr y^h$. For more general W, similar conclusion is obtained if $v^i(p, y^i) = g(p) y^i$ and if $W = \sum_{i=1}^n \ln v^i(p, y^i)$ or $W = [\sum_{i=1}^n (v^i)^{-\varphi}]^{-1/\varphi}$, where $\infty > \varphi > -1$. The larger the φ, the more egalitarian the criterion is. In the extreme case where φ approaches infinity, W depends only on the minimum of $\{v^i\}$. With the above special form of v^i, W is determined by the income of the poorest person. This becomes the Rawlsian social welfare function. In this case, the poorest

[4] Assume that the second-order condition is satisfied.

individual's marginal social utility of income is positive and those of all others are zero. In this case, the second set of conditions cannot be satisfied if incomes are unequally distributed. The other extreme case is when $\varphi = -1$. The distributional equity is disregarded and social welfare is determined by the aggregate income only. In this case, $s^i = s^h = g(p)$. Finally, if W is replaced by a special Nash form $W = \prod_{i=1}^{n} [v^i(p, y^i)]^{\alpha^i}$, then $s^i \gtreqless s^h$ if $y^i/\alpha^i \lesseqgtr y^h/\alpha^h$.

If the country is small, the optimum tariff formula (15) becomes

$$t = M(D_\theta - D_b)/D_b M_t\,. \tag{17}$$

PROPOSITION 4. *The optimum tariff rate for a small country is positive, zero, or negative, depending upon D_θ being less than, equal to, or greater than D_b.*

Although the optimal trade policy for a small country is free trade in the one-consumer case, this is generally not true when there are n consumers with unequal distribution of income. It is reasonable to assume that the social marginal utilities of income of the poor are higher than those of the rich; that is, $s^i > s^h$ if individual i is poorer than individual h. This has been demonstrated above for a variety of social welfare functions. If the imported good is a luxury, the poor will spend less on it than the rich. Thus if revenue distribution is not strongly biased toward some individuals, we can expect that $D_\theta < D_b$. In this case, the optimal policy calls for an import tariff. On the other hand, if the imported good is a necessity, it is more likely that $D_\theta > D_b$. In this case, the optimal policy should be an import subsidy. Only when $D_\theta = D_b$ will a free trade policy for the small country be called for. This will be the case if either one of the two sets of conditions discussed earlier are met: $\theta^i = b^i$ or $s^i = s^h$ for all $i, h = 1, 2, \ldots, n$. Thus in one extreme case of our earlier example, if the distributional equity is disregarded (the case where $\varphi = -1$), then $s^i = s^h = g(p)$ and the free trade policy is called for. However, in the other extreme case that yields the Rawlsian criterion ($\varphi = \infty$), free trade in general will not be called for. Let person 1 be the proorest. Then we have $D_\theta = s^1\theta^1$ and $D_b = s^1 b^1$. Therefore, the optimum trade policy must be governed by merely comparing θ^1 and b^1. If $\theta^1 > b^1$, then an import subsidy is called for; but if $\theta^1 < b^1$, then an import tariff must be imposed. Finally, note that if W takes the special Nash form given earlier and if individuals have identical Cobb-Douglas utility functions, then the small country's optimal policy is free trade if $y^i/\alpha^i = y^h/\alpha^h$.

Let D_λ be "the distributional characteristic of individuals' shares of exports," defined as $D_\lambda = \sum_{i=1}^{n} s^i\lambda^i$. From (16) we obtain that D_θ is a weighted average of D_λ and D_b:

$$D_\theta = D_\lambda/(1+t) + tD_b/(1+t)\,. \tag{18}$$

This implies $D_b - D_\theta = (D_b - D_\lambda)/(1+t)$. Therefore, $D_b \gtreqless D_\theta$ if and only if $D_b \gtreqless D_\lambda$. Thus all the above propositions can be alternatively stated by replacing D_θ with D_λ.

3. THE CASE OF CONTINUOUS DISTRIBUTION OF INCOME

In this section, we develop the optimum tariff formula under the assumption that incomes are continuously distributed. For simplicity, assume that individuals that have identical incomes are identical individuals and that they are regarded as an income group. Let $f^i = n^i/n$, where n is the population size and n^i is the number of individuals in group i having income y^i. Also let $D_c \equiv (n/C_2)\int_0^\infty f^i s^i c_2^i dy^i$, $D_q \equiv (n/Q_2)\int_0^\infty f^i s^i q_2^i dy^i$ and $D_b \equiv n\int_0^\infty f^i s^i b^i dy^i$, where C_2 and Q_2 are aggregate consumption and production of good 2. Clearly, $D_\theta = n\int_0^\infty f^i s^i \theta^i dy^i = (C_2/M)D_c - (Q_2/M)D_q$. Feldstein (1972) called D_c a "distributional characteristic" in a different context. Here we call D_c and D_q "the distributional characteristics of individuals' consumption and production". D_θ and D_b are called as before "the distributional characteristics of individuals' shares of imports and revenue distribution". Using the definitions of D_c, D_q and D_b, we can rewrite (15) as

$$t = \frac{(M\Delta/M_t)(D_c - \rho_1 D_q - \rho_2 D_b) + (D_c - \rho_1 D_q)}{\rho_2 D_b \varepsilon^* - (D_c - \rho_1 D_q)}, \tag{15'}$$

where $\rho_1 \equiv Q_2/C_2$, $\rho_2 \equiv M/C_2$, and $\rho_1 + \rho_2 = 1$.

PROPOSITION 5. *If $D_c = D_q = D_b$, then $t = 1/(\varepsilon^* - 1)$.*

If the home country is small, the optimum tariff formula becomes

$$t = C_2(D_c - \rho_1 D_q - \rho_2 D_b)/D_b M_t\,. \tag{19}$$

PROPOSITION 6. *Assume that $M_t < 0$. The optimum trade policy for a small country calls for an import tariff, free trade, or an import subsidy if and only if the distributional characteristics of individuals' consumption is less than, equal to, or greater than a weighted average of the distributional characteristics of individuals' production and revenue distribution.*

When the optimum policy is a tariff, it requires a relatively small D_c and large D_q and D_b. In general, D_c tends to be small if the imported good is a luxury and is therefore consumed mostly by the rich. D_q tends to be large if the domestic production of the importable is largely contributed by the poor. On the other hand, an import subsidy becomes optimal if the imported good is a necessity (large D_c), whose domestic production and cost of subsidy are provided mostly by the rich (small D_q and D_b). In the special case where all the three distributional characteristics are equal, the optimal policy for a small country is free trade.

4. THE CASE OF EXPORT TAX

In this section, we illustrate an optimum export tax formula and discuss the implications in relation to the import tariff. Let τ be the *ad valorem* export tax rate based on the domestic price: $p_1(1+\tau) = p_1^*$. With no import tariff, we have

$p_2 = p_2^*$. Therefore,

$$p = p^*(1+\tau)\,. \tag{20}$$

If $\tau > 0$, it is an export tax, and if $\tau < 0$, it is an export subsidy. Comparing (1) and (20), we see that as long as $t = \tau$, the wedge between p and p^* is the same as before; therefore, the familiar symmetry between export and import taxes carry over to the present model. The export tax revenue or subsidy cost in terms of good 1 is τX. b^i is the ith individual's share of export tax revenue or subsidy cost. Since $M^* = X = p^*M$, the individuals' budget constraints in (2) still hold if t is changed to τ. Thus all the results obtained for the import tariff case can be straightforwardly changed to the export tax case. To avoid repetition, we only illustrate the counterpart of (15):

$$\tau = \frac{D_\theta/D_b - (M\Delta/M_\tau)(1 - D_\theta/D_b)}{\varepsilon^* - D_\theta/D_b}\,, \tag{21}$$

where $M_\tau = \partial M(p^*, \tau)/\partial\tau$. The symmetry between t and τ is revealed by the perfect symmetry between (15) and (21). Thus, for example, Proposition 2 can be changed to:

PROPOSITION 2′. *Assume that $M_\tau < 0$. A small export tax will increase or decrease a small country's welfare depending upon whether D_b is greater or less than D_θ. It will increase a large country's welfare if D_b is greater than D_θ but may not decrease its welfare in the opposite case.*

In the case of export tax, the counterpart of (16) becomes

$$\theta^i = \lambda^i/(1+\tau) + \tau b^i(1+\tau)\,, \tag{22}$$

and that of (18) becomes

$$D_\theta = D_\lambda/(1+\tau) + \tau D_b/(1+\tau)\,. \tag{23}$$

It follows that $D_b - D_\theta = (D_b - D_\lambda)/(1+\tau)$ and we again obtain $D_b \gtreqless D_\theta$ if and only if $D_b \gtreqless D_\lambda$. Therefore, Proposition 2′ can be alternatively stated by replacing D_θ with D_λ. The same comments apply to all other alternative propositions not presented here.

5. CONCLUDING REMARKS

This paper has examined the theory of optimum tariff in a model with unequal incomes among consumers. Our model fills a gap in the optimal tariff literature which has largely neglected the consideration of income distribution. We have derived the optimum tariff formulas and shown the importance of distributional parameters in the determination of optimal tariff rates. In particular, we have discussed the different implications for tariff policy when income distribution is taken into account. Instead of repeating our main results which have been presented in the various propositions, we shall make some remarks about the model itself.

With the normative nature of the present model, it is inevitable that some type of social welfare function must be employed. The individualistic social welfare function chosen in the present paper naturally has its limitations. Trade with optimal intervention may leave some individuals worse off even though the social welfare is at its maximum. However, the introduction of heterogeneous consumers with different tastes and incomes reveals the important role of distributional equity in the theory of optimum tariff.

In this paper, we have simplified the production side by suppressing the factor markets. When the factors of production are introduced into the model, a household's direct utility function will depend upon its consumption of both goods as well as its supplies of factors of production. One can then look at the normative aspect of the effects of a tariff on the welfare of factor owners.

This literature on the political economy of tariff formation explains the existence of tariffs even for a small economy. Tariffs are the result of political pressures from factor owners such as workers and landlords. In this paper, we have offered a different explanation of the existence of tariffs. We have demonstrated that when distributional equity is a concern of the policy makers, there is a justification for trade taxes.

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