Paper for PEIO 2008

Sinners or Sinned Against? Domestic Economic Institutions and the Political Economy of WTO Trade Complaints

Abstract

Do countries that use the multilateral trade law system tend to be more or less economically free or open than their less litigious counterparts? WTO members vary in the frequency with which they exercise their legal right to request panel adjudication of trade disputes. Because the nature of the WTO legal process is strictly retaliatory, it is possible that the process provides an incentive for governments to issue complaints as a means of imposing protectionist measures with the sanction and legal cover of the international system and the legitimacy that it can confer. More open economies, on the other hand, may see little benefit to participating in a process that works only to further impede trade as a response to impaired trade. Application of inferential statistical methods can answer this empirical question. Economic freedom, and in particular effective domestic protection of property rights, is shown to have a positive and statistically significant effect on the frequency of panel requests. Implications for the future evolution of the WTO system are considered, as to the kinds of incentives it provides for governments to adopt protectionist versus free-trading policies, given the increasingly "legalized" nature of an international trade system built on precedents and shaped by the nature of the cases and complainants that the system serves.

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# 1.    Introduction

Do countries that use the multilateral trade law system tend to be more or less economically free or open than their less litigious counterparts?  While all World Trade Organization (WTO) members have the right to request panel adjudication of trade disputes, not all members avail themselves of this option at the same frequency.

All WTO members have the right to request the formation of WTO dispute settlement panels in the event of violation of WTO obligations causing nullification or impairment of the rights of the complaining member.  If the panel (and subsequently, the Appellate and Dispute Settlement Bodies, if necessary) agrees, the complainant is allowed to retaliate against the offending party and impose punitive protectionist measures, usually in the form of prohibitive tariffs against products from the offending member, with the intended effect of reducing trade by the same amount of value as in the original violation.

Because the nature of the WTO legal process is strictly retaliatory – it does not offer direct restitution as a remedy; it only authorizes reprisals – it is possible that the process provides an incentive for governments or industries to issue or request complaints as a means of imposing protectionist measures with the sanction and legal cover of the international system and the legitimacy that it can confer.  Truly open economies, on the other hand, may see little benefit to participating in a process that works only to further impede trade as a response to impaired trade.  A system based on such a remedy would appear to offer merely the opportunity to "get even," without necessarily altering the

behaviour causing the dispute to be initiated in the first place. An empirical investigation of patterns in the actual usage of the WTO dispute settlement system could reveal significant implications for its future evolution, as to the kinds of incentives it provides vis-à-vis protectionism versus the promotion of open trade, and how a legalized international trade system built on precedent and WTO panel jurisprudence might be shaped by the kinds of cases and the nature of the complainants that the system serves. In other words, it is worth asking: who is shaping the agenda for international trade law by bringing the cases and raising the issues that interest them?

The empirical question will be approached through the application of inferential statistical methods. Although more than ten years of data have accumulated since the transition from the General Agreement on Tariffs and Trade (GATT) to the WTO, and it is now possible to assemble a reasonable dataset on WTO processes and its unique dispute settlement mechanism in particular, inferential statistics have rarely been applied. The promise of such an approach is nonetheless apparent from the examples of statistical analysis that do exist, such as the interesting patterns discerned by Leitner and Lester through descriptive statistics, or the insights gained through inferential statistics concerning the formation of regional trade agreements through the use by Mansfield and Reinhardt of GATT and early WTO dispute settlement outcomes as an explanatory variable.

The current article builds on such approaches by applying inferential statistical analysis to aspects of economic structure in order to understand better how domestic factors may act as determinants of trade policy in terms of decisions by governments to pursue international litigation at the WTO. Section 2 describes how this approach will be

operationalized through the data to be used and the variables to be analyzed.  Section 3

describes the statistical models to be applied and reports the results of the primary model,

while section 4 explores in greater detail the possible relationships between use of the WTO

dispute settlement mechanism and more specific dimensions of economic freedom.  Section

5 concludes with comments on some of the possible implications from this quantitative

analysis for our understanding of international legal and institutional development.


## 2. Data and Methodology


The data on WTO disputes were compiled from the WTO website.  The information

available from the WTO allows the dispute count to be broken down by year and

complainant.  The data thereby provide dispute count observations that can be readily used

as the dependent variable in the estimation of regression models following a Poisson-type

distribution, with each observation i (i = 1, … , n) identifying the number of disputes

occurring within the fixed domain of a given WTO member for a given year.  These data

cover each year of the WTO's existence, beginning on 1 January 1995, and the analysis

below makes use of the complete dataset for 1995-2006.

The underlying phenomenon to be investigated for its impact on the frequency of

WTO complaints involves the nature of a country's economic institutions, and the degree to

which they can be characterized by the existence of competitive markets or regulatory

intervention.  These two aspects, of competition and regulation, should probably not be

viewed as a mutually exclusive dichotomy.  For example, competition is often impossible

without effective government action in the protection of property rights and the rule of law. There appears, however, to be a tendency for available measures and indices to simplify, assume and assess economies on the basis of a clearly delineated continuum of "economic freedom," defined in broad terms as, for example, the extent to which "individuals are free to work, produce, consume, and invest in any way they please, and that freedom is both protected by the state and unconstrained by the state.

Such indices, compiled over time and according to systematic and consistent measures, are nonetheless a valuable source of information on the underlying phenomena of interest, and can form the basis of the independent variable under analysis, although the complications discussed above will necessitate a certain degree of analytical caution in order to avoid the making of false inferences. A number of indices of economic freedom have been developed. The index used for the current analysis is the "Index of Economic Freedom" (IEF) since it uniquely provides annual measures of economic freedom dating back to 1995. The IEF reports an aggregate measure of economic freedom made up of nine constituent sub-indices measuring trade, investment, and financial openness; the burdens imposed by taxes and business regulation; government expenditures; monetary policy; property rights protection; and level of corruption.

Thus the data available for the IEF corresponds with the time period since the entry into force of the WTO Agreement that encompassed, augmented, and supplanted the GATT of 1947, not least with regards to a new Dispute Settlement Mechanism (DSM). The major difference between the old and new systems of dispute resolution has been described as a shift in the extent of "domestic embeddedness," or degree of "control over promulgation

and implementation of judgments by individual national governments":

> In the old GATT system, the decisions of dispute-resolution panels had to be affirmed by consensus, affording individual litigants an *ex post* veto. Under the less tightly controlled WTO, by contrast, disputes among member governments are resolved through quasi-judicial panels whose judgments are binding unless *reversed* by unanimous vote of the Dispute Settlement Body, which consists of one representative from each WTO member state.

The difference between the regimes is therefore substantial and not merely cosmetic; it is desirable for our purposes to limit the analysis to the 1995-2006 time-period under which the current WTO regime has been applied.

The analysis below also includes a measure of Gross Domestic Product (GDP) as an independent variable, in order to control for the size of a WTO member's economy. With the exception of Cuba, the GDP data are reported in billions of U.S. dollars at current prices and (projected) nominal exchange rates as provided by the International Monetary Fund's (IMF) World Economic Outlook (WEO) database, last updated in April 2007 as of this writing.

## 3. Regression Model and Basic Estimates

The data under analysis here take the form of an event count: the dependent variable (i.e., the number of complaints initiated by a WTO member in a year) takes the form of a discrete non-negative integer, rather than as a continuous variable. The appropriate family of statistical models to apply to event count data is that of Poisson process models. As Gary King has demonstrated, the application of standard linear regression models

following the normal distribution (as opposed to the Poisson distribution) to event count data can result in serious problems with inefficient estimates and results that are not meaningful.

Due to problems of heterogeneity and non-independence, the appropriate model within the Poisson family of estimators to fit the present data is the negative binomial model. Formal tests including a likelihood ratio test confirm a superior fit for the negative binomial model to the present data. A negative binomial model was therefore estimated for the number of complaints to the WTO initiated in each year from 1995 to 2006 by each WTO member for which relevant information was available. The results from the basic model using a single aggregate measure of economic freedom are presented in Table 1.

**Table 1**
**Negative Binomial Model of WTO Complaints and Economic Freedom**

| Variable | Estimated Coefficient | Standard Error |
|---|---|---|
| Constant | -4.7654 | 0.5026 |
| Economic Freedom Score | 0.0473 | 0.0079 |
| GDP (billions of U.S. dollars) | 0.0004 | 0.00004 |

The results from this model are all highly statistically significant. They suggest a positive relationship between economic freedom and the propensity to initiate WTO complaints, as well as a positive relationship between GDP and the number of annual complaints.

The relative magnitudes of the relationships suggested by the model estimates may be somewhat surprising. The estimated coefficient of 0.0473 means that, *ceteris paribus*, an improvement of twenty points between countries on the one-hundred point scale of

economic freedom can be associated with approximately one additional WTO complaint per year. In contrast, the magnitude of the effect for the control variable of economic size seems relatively modest: a similar increase in the dependent variable of one WTO complaint per year would require, *ceteris paribus*, a corresponding increase in GDP of US$2.5 trillion.

## 4. The Extended Model: Estimating the Impact of Specific Aspects of Economic Freedom

The model of the previous section is estimated using a single aggregate measure of economic freedom. This measure combines multiple dimensions of economic freedom, and has the advantages of simplicity as well as familiarity from widespread use and reporting. The following model differs in its use of disaggregated measures representing a wider array of the economic structural phenomena previously referred to collectively as "economic freedom, " but in fact subsuming a variety of measures concerning economic openness, degree of government intervention, and institutional effectiveness. This disaggregated model should allow us to identify more precisely the institutional features of domestic economies that have an effect on the WTO dispute count. As noted in Section 2, there are nine sub-indices that make up the IEF. Of these, we will see that the most important for our analysis are the measures of trade openness, government expenditures, and protection of property rights. The results from the extended model using the disaggregated sub-indices are presented in Table 2.

**Table 2**

**Negative Binomial Model of WTO Complaints and Disaggregated Economic Freedom Measures**

| Variable | Estimated Coefficient | Standard Error |
|---|---|---|
| Constant | -4.7214** | 0.8956 |
| Low Regulatory Burden | -0.0007 | 0.007 |
| Trade Openness | -0.0122* | 0.0067 |
| Low Tax Burden | 0.0098 | 0.01 |
| Low Government Expenditures | 0.0194** | 0.0053 |
| Monetary Policy | -0.006 | 0.0066 |
| Investment Openness | -0.0101 | 0.0067 |
| Financial Sector Openness | -0.0009 | 0.0066 |
| Protection of Property Rights | 0.0428** | 0.0076 |
| Low Corruption | 0.0014 | 0.0059 |
| GDP (billions of U.S. dollars) | 0.0004** | 0.00004 |
| Log-likelihood = -620<br>* Statistically significant at a 90% level<br>** Statistically significant at a 99% level | | |

The number of observations in the extended model drops by one compared to the basic model, changing from 1,273 to 1,272 due to missing data on monetary policy in the Democratic Republic of Congo for 1995. Neither the coefficient for the constant nor that for GDP is sensitive to the change in specification; across models the two estimates are within approximately one percent of each other, and remain highly significant.

Among the disaggregated economic freedom measures, those for trade openness, government expenditures, and property rights protection have effects that are statistically distinguishable from zero. The estimate for trade openness is not highly significant, with a standard error reaching a level of magnitude that accounts for almost half of the estimated

coefficient. Nonetheless, it is clear from the results that the effect from trade openness is not only non-zero, but also negative in direction. This inverse relationship, whereby increased trade openness (as measured by lower tariffs and the absence of trade barriers) is associated with a decline in the frequency of WTO complaints, is surprising given the overall positive effect from economic freedom. This result suggests that the presence of perverse incentives in the international trading system cannot be entirely discounted, and that these may indeed encourage protectionist "sinners" in the world economy to take advantage of the system's legal procedures, even though the effect of such incentives may be small and imprecise. It is possible that the payoffs offered by successful WTO legislation, those of legitimized retaliation, provide an incentive for members to enter into cycles of retaliation, without any guarantees that the barriers at the source of an original complaint will ever be repealed. Use of such a system would appear to be especially attractive to those members who are in any case favourable towards enacting protectionist policies, yet who are nonetheless sensitive to reputation effects and the advantages of legitimizing such policies through the WTO dispute system. The direction of the trade effect indicated by the extended model regression suggests that this is possible. Further research is needed to answer the questions that such a dynamic raises concerning the future evolution of the WTO dispute system, as to the relative strength of a possible legalized-protectionism effect and how it might interact with positive compliance effects discouraging opportunistic protectionism, as well as the possibility that the apparent incentives for relatively protectionist WTO members to use the dispute settlement system will allow these members to shape the system through the types of cases that they bring (or refrain from

bringing) and the precedents that result from their outcomes. An analogy to such a dynamic, and how it might operate through "sins of omission," might be the former practice and "gentleman's agreement" to avoid introducing cases that touch upon subsidization policies directly affecting domestic agricultural producers. Additional evidence of a legalized-protectionism effect producing perverse incentives or an ongoing dynamic in favour of protectionism would further suggest a need for reform of the retaliation-based WTO dispute settlement system; one option advanced by Robert Z. Lawrence would be to introduce a system based on pre-negotiated contingent liberalization commitments, rather than one based on *ad hoc* suspension of concessions in response to violations.

Within the disaggregated model, the estimated coefficient for government expenditures is also significantly non-zero, with a slightly larger magnitude compared to the coefficient for trade openness, but having the opposite sign. Thus, at similar levels and other factors being equal, the effect of low government expenditures would appear to cancel out the effect from trade openness, although the estimate for the expenditure effect is statistically significant at a greater-than-99% level and far more precise than the estimate of the trade effect. The positive effect here indicates an association between lower domestic expenditures and the propensity to challenge trade barriers at the WTO. This expenditure effect is modest: a large increase of 50 points along the 100-point scale of the expenditure sub-index is associated with one additional complaint at the WTO during a year, holding all else constant. Nonetheless, the effect is not negligible, and can appear quite substantial when one considers that to produce a change in complaint frequency roughly equivalent to that produced by a 50-point on the expenditure scale, GDP would have to increase by US

$2.5 trillion.  Moreover, these two effects, both relatively modest yet strongly statistically significant, seem to have subtler implications when considered together: all else being equal, it is not only that larger economies will tend to have somewhat higher frequencies of WTO complaints, but that economies which spend relatively lower proportions of their GDP will also tend toward having higher frequencies of complaints.  This combined effect therefore suggests that the already modest effects of economic size may be further tempered by the relative size of the government sector within an economy.  These subtleties suggest that further research would be useful in exploring the channels and inter-relationships through which the possible economies of scale involved in international litigation may operate: perhaps it is not only the size of the economic interests at stake that determine the propensity to litigate, but also the extent to which economic sectors and interests are habituated to acting and organizing autonomously with relatively little guidance or intermediation from the government sector.

The final independent variable with a statistically significant effect in the disaggregated model, and the one of the largest magnitude, is the measure of domestic property rights protection.  Property rights, and effective courts and legal systems, appear to be the primary determinant, among the aspects of domestic economic institutions considered here, of the propensity of a state to participate in attempts to vindicate its WTO rights.  The effect of strong property rights protection is positive, with a 25-point increase along the 100-point scale of the property sub-index associated *by itself* with an approximate increase of one in the annual frequency of WTO complaints by a country.

The source of this substantial effect could be explained in a number of ways.  One

possible causal mechanism is the availability of legal staff and resources in countries with strong property rights protection, and a surprisingly high potential for these resources to be transferred to purposes of international trade litigation at the WTO. Further research into such mechanisms would be useful. For the present, this finding provides further evidence of the continuity between domestic legal systems and processes of "legalization" in the international sphere. Moreover, these results suggest that the enhancement of opportunities for states currently on the margins of the international economic system to participate in setting the rules of the system for the future may depend upon domestic legal reform efforts and the thorough internalization of a legal culture supported by a broad societal belief that the rule of law is the only legitimate order in the economic realm.

## 5. Concluding Comments

Quantitative analysis and the application of inferential statistical methods show a statistically significant relationship between domestic economic structure and the tendency of a WTO member to use the multilateral dispute settlement mechanism. Moreover, the relationship between economic freedom and the number of panel requests is a positive one: economies that are more free, and especially economies with well-developed systems to protect property rights, will tend to make more frequent use of the dispute settlement system. In other words, usage of the WTO dispute settlement system does not on the whole appear to be biased toward the economically closed "sinners" of the world economy.

Douglass North has written of history as "largely a story of institutional evolution in

which the historical performance of economies can only be understood as a part of a sequential story." The current analysis suggests a further dynamic whereby the co-evolution of national and international institutions, in an era of "ever-increasing international transactions," can introduce additional chapters and layers of complexity to the story. It is no secret that the effective protection of property rights is essential for markets to function properly. The exposition here of the positive relationship between the conditions of domestic property rights protection and the external capacity of states to pursue vindication of rights under international trade law suggests that the consequences of effective property rights protection extend beyond domestic economic growth, and that in the quest for effective participation in global markets, there may be no easy alternative to the long, incremental effort of domestic legal reform. Further research may help to understand better the implications for those who advocate increased participation in the international economy and trading system among countries that are perceived as marginalized, as the current findings are suggestive concerning the priorities to be made among efforts to build legal capacity and aid legal reform efforts. In the realm of international organizations and legal institutions, a corollary to the popular admonition to "think globally and act locally" may be that to participate globally, one should reform locally.

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