The Time WTO Panels Require to Issue Reports

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ABSTRACT

Almost all WTO dispute panels exceed their statutory time limits. This is often seen to
indicate a more general problem for panels to manage their tasks. The time required varies
considerably across panels however, suggesting that they do not face the same problems. To
shed light on these differences, this paper examines the relationship between the time panels
require and features of their tasks. It finds that variables intended to capture quantitative
aspects of panel workloads, as well as some complexity aspects, are positively related to the
time required. But two factors that should simplify panels' tasks – a large case law, and
panelists' experience from serving on earlier panels – do not seem to matter. The results are
sensitive to the inclusion of certain disputes however, raising the question of whether these
should be viewed as outliers.

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1 Introduction

There is a wide-spread perception that WTO panels – the "first instance" courts in the WTO dispute settlement system – have difficulties to handle WTO disputes, and that the problems tend to get worse over time. The alleged problems are claimed to be manifested in several ways. This paper focuses on one alleged indication of such a problem: *the considerable time required to issue reports.*[1] Art. 12 of the Understanding on Dispute Settlement (DSU) is very clear on the time limits for panels to issue reports:

> 8. In order to make the procedures more efficient, the period in which the panel shall conduct its examination, from the date that the composition and terms of reference of the panel have been agreed upon until the date the final report is issued to the parties to the dispute, shall, as a general rule, not exceed six months…

> 9.…In no case should the period from the establishment of the panel to the circulation of the report to the Members exceed nine months.

But panels almost always exceed both these time limits. It is not self-evident that this is a problem; for instance, it gives time for the parties to reach a mutually agreed solution, which is the preferred mode of settlement according to the DSU. But there are also several reasons why an expedient decision process seems desirable. One important reason is that there are hardly any retrospective remedies in the WTO. Hence, the longer it takes for panels to issue reports, the longer illegal measures can be in place without any compensation for complaining countries. The WTO membership's desire for a quick issuing of panel reports is also clear from the DSU, which stipulates very clear and very strict time limits.

A number of proposals have been made to speed up the panel adjudication process.[2] For instance, it has been suggested to have standing panelists, rather than the current system with *ad hoc*-selected panelists. The idea is that this would both increase the quality of the panel decisions, and shorten the time required for panels to issue reports. Another proposal is to introduce "small claims" complaints for the poorest WTO Members. These are meant to be less onerous from a legal process point of view, and thus to require less resources, but also to reduce the time it takes for these Members to remove illegal obstacles they face.[3]

It is indeed easy to point to disputes where serious strains have been put on WTO panels and where it has taken substantial time for panels to issue reports; obvious examples are the *EC— Hormones* (DS26) and *EC—Bananas* (DS27) disputes in the early days of the WTO, *EC – Biotech* (DS 291) where the panel bitterly complains about its workload, and the more recent

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[1] Another alleged problem is that a high rate of turn-over by the WTO upper-level court, the Appellate Body (AB), indicates that the quality of the decision making is poor; this view has led to proposals to reform the Understanding on Dispute Settlement (DSU) away from the current system of *ad hoc* composed panels to a system with standing panelists.

[2] In the WTO, such changes have been proposed by the EU, in particular. For discussions from legal perspectives, see e.g. Davey (2003), and the other contributions on the topic in the same issue of the *International Journal of Economic Law*, and Steger (2012). Busch and Pelc (2009) provide a statistical analysis of the factors causing the AB to overturn panel decisions.

[3] Such a proposal has been advanced by e.g. Nordström and Shaffer (2007).

cases *Airbus* (DS316) and *Boeing* (DS353). But it is also easy to point to disputes where panels seem to have managed their tasks with much less difficulty, although they may still have exceeded the statutory time limits. The difficulties panels face therefore seem to *vary* considerably across disputes.

Several papers highlight possible reasons for the long time required for panels to issue reports, and what can be done to reduce it. In particular, Kennedy (2011) extensively discusses a number of aspects of the panel stage of the dispute settlement process. But while providing a wealth of detailed information about many disputes, the paper does not statistically analyze factors that might possibly affect the amount of time panels take to issue reports, and nor does the literature more generally highlight this issue, as far as the author is aware.

The purpose of this paper is to take a complementary approach, using the whole body of WTO panel reports from the years 1995–2012, to examine how a number of factors relate to the time required for panels to issue reports. The basic premise is that the time needed for a panel to issue its report depends on two broad features of the panel's task. One is the *volume* of the work laid before it. For instance, in *EC—Biotech* the panel had to address the same legal issue for a large number of different plants, and for four different EU Members. As a consequence, the panel had to undertake essentially the same legal analysis a large number of times, causing the panel report to run over a monstrous 2 434 pages – just the Table of Contents is close to 40 pages long. Had the panel only needed to consider claims concerning one of the plants at issue, and had the challenged measures only been pursued in one EC Member State, the sheer dimensionality of the problem would have been much smaller. In what follows we will use the number of claims that are made in a case as a proxy for the volume aspect of panel workloads.

The other aspect that contributes to the panel's workload is the *conceptual complexity* of the case. This complexity may stem from at least three separate sources: from a *vague and untested legal regime* in the WTO; from difficulties in understanding the *scientific or technical* issues involved; or from *political intricacies*, where the panel is seeking to understand the regulatory preferences of the parties, and WTO Members more generally. Needless to say, it is very hard to identify factors that adequately measure any of these aspects of conceptual complexity— it is not even clear exactly what they mean. But vague as the concept of complexity may be, it is equally clear that certain panel decisions are more conceptually difficult than other determinations. The hypothesis here is that such difficulties tend to increase the time needed to issue reports.

Several proxies will be used to capture the above three aspects of complexity. With regard to the legal complexity, a common idea in the policy debate is that panel workloads have become more complex since protectionism has moved "behind the border", nowadays exploiting complex domestic regulatory policy measures. The non-transparent nature of these policy measures by itself contributes to making the panel's task difficult. Additionally, these policies tend to fall under agreements that were introduced into the multilateral trade regime with the Uruguay Round, and that still remain largely unchartered legal territory. To capture

these aspects, the study will employ a measure of the extent to which claims are made under certain "domestic instruments" variables. Second, to capture the scientific or technical difficulty of a case, the study will use the number of experts involved in the dispute. Finally, several variables will be employed to capture political sensitive issues, such as the extent to which the policy measure at hand concerns environmental protection or agricultural policies.

The volume and complexity of panel workloads will hence contribute to the amount of time that is required in order to issue reports. But there are also some mitigating factors. First, the panel's task should be easier, the more case law that exists on the legal provisions that are invoked. To capture such an effect, the study will include a variable measuring the number of times each invoked provision has been previously adjudicated during the WTO era. The other possibly mitigating factor is the experiences of the panelists from participation in earlier panels; in particular, one might expect experienced panelists to require less time to issue reports. A variable capturing panelists' previous experiences will be included to capture such expertise.

The purpose of the analysis is to illuminate the relationship between these indicators of the volume and complexity of work laid before panels, and the time required for panels to complete their tasks. To this end, the amount of time required for issuing reports will be regressed against the above-described right-hand side variables. The study does not purport to analyze causality, only to describe the data in a systematic fashion. Ultimately, such causal analysis will be required in order to device appropriate remedies for the alleged problems.

The paper finds that the proxy for the quantitative aspects of panel workloads, as well as some of the proxies for the complexity of the workloads, are positively and significantly related to the amount of time required to issue reports. But the two factors that should mitigate the problems panels face—a large case law, and panelists' experience from serving on earlier panels—do not seem to matter. A more general conclusion is that the results are quite sensitive to the exact definition of the data. This follows from the fact that there is a small number of disputes with extreme features, for instance in the amount of time they required to be issued. It matters crucially to the results whether these are perceived as outliers, or as representing central features of the dispute settlement system. The appropriate view in this regard will ultimately depend on the exact issue at stake.

The paper is structured as follows. Section 2 describes more exactly the left-hand and right-hand side variables, and the data used to captures these. Section 3 examines the relationship between the time used to issue panel reports and the right-hand side variables. Section 4 discusses the sensitivity of the results from a range of different perspectives. Section 5 concludes.

2   The data

As explained above, the paper seeks to shed light on the notion that the time required for panels to issue reports depends on the volume of work they face, and on the conceptual complexity of their tasks. Needless to say, these features of panel workloads are not easily measured, especially not the latter. We will in Sections 3 and 4 examine a number of model specifications. The main specification will be a linear model defined over one variable capturing the volume aspect of panels' workloads, and several variables capturing various aspects of the conceptual complexity of their tasks. This section introduces these variables and the data to be used.

2.1 The data

Most of the data is taken from the Horn and Mavroidis WTO Dispute Settlement Data Set (H&M Data Set), for which the data relevant for this study has been updated to include events occurring until the end of 2012.[4] But we will occasionally use other sources, as specified below.

The data comprises all Art. 6 DSU disputes that have been adjudicated during the period 1995–2012, for which "unique" panel reports have been issued, and where the reports go beyond just briefly stating that a mutually agreed solution has been reached.[5] The qualifier "unique" refers to the fact that there are sometimes several complainants that complain about essentially or exactly the same issue, but do so through separate requests for consultations. In such cases there might be several reports issued by the same panel that are highly similar, or effectively identical. For instance, four very similar reports were issued in the *EC – Bananas III* dispute, all with the same DS number. In other cases reports concerning the same matter appear with separate DS numbers.[6] Since the panel had to undertake a highly similar task in each of these instances, we will only include these disputes once.[7] In other cases more or less identical reports are issued under different DS numbers. An extreme example is the *US – Steel Safeguards* case, where there were eight complainants, and separate, but essentially identical, reports were issued, one for each complainant.[8] In such cases we again only include one

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[4] Available from the World Bank website at "http://siteresources.worldbank.org/INTRES/Resources/469232-1107449512766/Horn_Mavroidis_WTOdataset110311.xlsx".

[5] Art. 6 of the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU) provides the legal basis for Members to request adjudication concerning other Members' policy measures. The data set does not include reports by Art. 21.5 DSU compliance panels, nor Art. 22.6 DSU arbitration panels. The data set also excludes communications from panels concerning corrections to previous reports.

[6] A complaint is initiated through the filing of a Request for Consultations, and each such request is assigned a "DS number". Occasionally, several countries jointly file such a request, and in other times they file separate requests concerning essentially the same measure. In the latter case, each of the filings will be assigned a different number, but it may at a later stage be decided to merge the different processes into one, leading to the issuing of just one report, or several more or less identical, reports.

[7] We then pick the one listed first in the H&M Data Set.

[8] The following explanation is taken from a footnote on the WTO website: "Although all complaints made by the eight co-complainants were considered in a single panel process, the United States requested the issuance of eight separate panel reports, claiming that to do otherwise would prejudice its WTO rights, including its right to settle the matter with individual complainants. The complainants vigorously opposed this request, stating that to grant it would only delay the panel process. The Panel decided to issue its decisions in the form of "one document constituting eight Panel Reports". Thus, for WTO purposes, this document is deemed to be eight

report. The qualifier "non-trivial" reports refers to the fact that some reports only contain a few pages where the panel just noted that the parties have reached a mutually agreed solution, and where it therefore does not make any determination concerning the subject matter of the dispute. Such "reports" are also omitted, as are very brief corrigenda.[9] A list of the resulting 140 unique and non-trivial reports that forms the observations in our data set can be found in Appendix 1, which also presents the data for several of the variables used below.

2.2 The time required to issue reports

The focus in what follows will be on the possible determinants of the number of days between the establishment of the panel and the date for the circulation of the panel report; captured by the variable *Time*. Information concerning both these dates is taken from the H&M Data Set. The measure is somewhat crude, in that panels are occasionally affected by factors beyond what we would like to capture in this study. For instance, in a few disputes, the parties requested the panel suspend its proceedings (Art. 12.12 DSU) only to request a resurrection of the panel a month or two later. But quantitatively speaking this should have very limited impact on the results to follow.[10] In other cases, panelists have had conflicting engagements, have become sick, etc. It could be argued that the time required for issuing reports should be adjusted for these idiosyncratic disturbances. But no adjustments will be made, partly since the records in data set are not sufficiently complete to allow all for such corrections. For instance, some panels are reported in the data to have been suspended, but there is no report of when they were resurrected, despite the fact that the panel later issues a panel report. Another reason is that doing these types of adjustments leads out on a slippery slope, where it becomes hard to determine exactly what adjustments to make and not make. Also, they are not likely to affect the covariates, only the left-hand side variable, so they will most likely not introduce any bias.

As can be seen from the first row of Table 2.1 and the frequency distribution illustrated in Figure 2.1, the time required for panels to complete their reports varies considerably (the unit for *Time* is days).

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separate reports, relating to each of the eight complainants in this dispute. The document comprises a common cover page, a common descriptive part and a common set of findings. However, the document also contains conclusions and recommendations that are "particularized" for each of the complainants, with a separate number (symbol) for each individual complainant. In the Panel's view, this approach respected the rights of all parties while ensuring the prompt and effective settlement of the disputes."

[9] Mutually agreed solutions have been reported in disputes DS7, DS12, DS14, DS72, DS323 and DS391.

[10] In DS60 and DS285, with one month, and in DS219 with two months.

Table 2.1: Basic statistics for the variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Time	140	446	214	191	1868
Claims	140	14.2	18	1	121
DI	140	2.1	8.4	0	90
Experts	140	0.34	1.28	0	7
Env	140	0.08	0.27	0	1
AG	140	0.22	1.13	0	11
DGAppoint	140	0.6	0.49	0	1
CaseLaw	140	389	1035	0	7041
Exper	140	2.8	2.2	0	11

Figure 2.1: The frequency distribution for *Time*
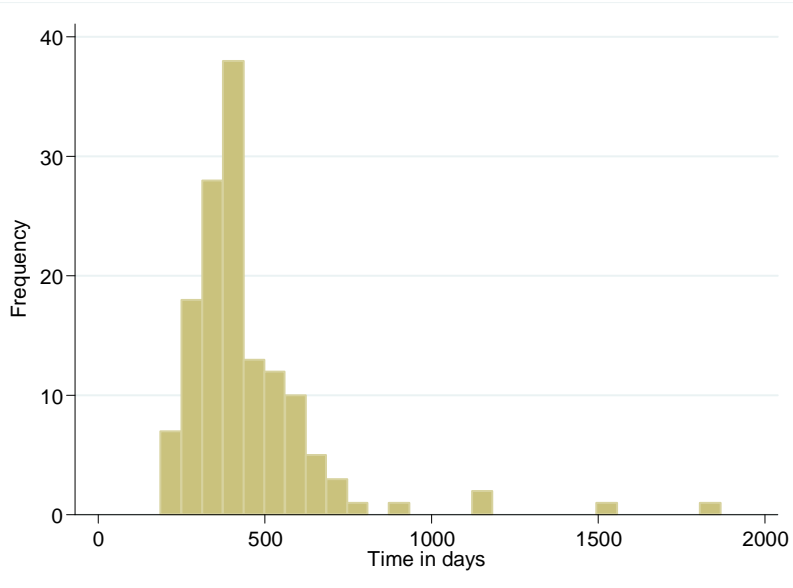
Most reports take between 300 and 600 days, and the median is 399. But there have been some extremely time-consuming disputes, as can be seen from Table 2.2, which lists the four longest-running disputes in terms of the time required for the issuing of the panel report. The two most extreme disputes are the Airbus case (DS316), where the panel needed more than four years, and the Boeing dispute, where it took over five years to issue a report.

Table 2.2: Disputes for which *Time* > 1000

DSNo	ShortTitle	Time
353	*US—Large Civil Aircraft (2nd complaint)*	1 868
316	*EC—Large Civil*	1 507
320	*US—Continued Suspension*	1 138
291	*EC—Biotech Products*	1 127

To highlight the popular perception that panels face increasingly demanding tasks, Figure 2.2 plots *Time* against the dates for the establishment of the panels, *EstabDate,* the unit of account of which is days. While the time to issue a report (*Time)* tends to increase during the first half of the period, it flattens out or perhaps even falls in the second half of the period. It is hence not clear whether panels take increasingly longer over time. It should be noted though that the series is truncated at the end of the period, in the sense that the panels that are established toward the end may still be working on very long and time consuming reports.

In order to get more precise information concerning the trend, *Time* is regressed against *EstabDate*. As shown in the first column of Table 2.3, there is a positive, and highly statistically significant, trend. Also, while perhaps not large, the magnitude of the estimated coefficient still suggests that when comparing a panel report with a report from a panel established 5 years later, the latter panel report will take 71 days longer to issue. [11]

As mentioned above, there are certain problems with the data pertaining to the last couple of years, since certain panels might not have had time to issue their reports. If we instead consider panels established during the period 1995–2009, there would be a more consistent upward trend in the two variables; a panel would require 118 days longer compared to a panel established 5 years earlier.

Figure 2.2: *Time* against *EstabDate* with fitted linear trend

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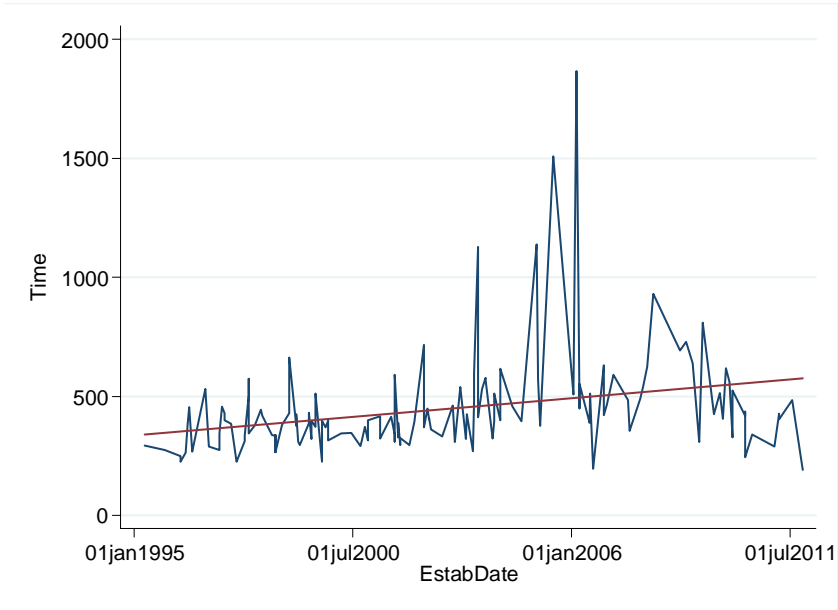
[11] Calculated as 1 825 days times the estimated coefficient 0.039.

Table 2.3: Time trends

VAR.	(1) Time	(2) Claims	(3) DI	(4) Experts	(5) Env
EstabDate	0.0390***	0.0030***	0.0004**	-7.50e-05	-3.59e-06
	(0.00987)	(0.000890)	(0.000193)	(6.75e-05)	(1.77e-05)
Constant	-163.2	-33.12**	-4.283	1.507	0.135
	(142.8)	(12.92)	(2.593)	(1.076)	(0.279)
Obs	140	140	140	140	140
R-squared	0.086	0.073	0.006	0.009	0.000

VAR.	(6) AG	(7) DGApp	(8) CaseLaw	(9) Exper
EstabDate	-5.04e-05*	7.27e-05***	0.215***	0.0008***
	(2.81e-05)	(2.61e-05)	(0.0661)	(8.92e-05)
Constant	1.008**	-0.536	-2,968***	-8.959***
	(0.473)	(0.411)	(958.0)	(1.321)
Obs	140	140	140	140
R-squared	0.005	0.057	0.112	0.298

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The above observations concerning panels' workload can be summarized as follows:
- the number of days required by panels to issue reports, vary considerably across disputes; and
- there is a highly significant, and quantitatively important, positive time trends.

In what follows, we will seek to shed some light on what explains the observed pattern.

2.3 The volume of work put before panels

As a proxy for the amount of work put before panels, we will use the *number of legal claims* that are made in the disputes. Information concerning the number of claims is taken from the H&M Data Set, which for each dispute contains information on all the provisions that the panel believed was invoked. The data set also reports for each claim, whether it was accepted or rejected by the panel, or whether the panel did not address it at all. This information is extracted from the Conclusions and Recommendations sections of each report.[12]

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[12] Requests for Establishment of a Panel often invoke provisions that are eventually dropped, or at least are not addressed by the panels. But here we only included the claims that the panel actually addressed in their determination, partly since these are presumably those that the panel spent most efforts considering, and partly since these are the claims for which there are well-defined outcomes, which we will put to use later in the study. But it happens that panels occasionally evaluate claims that do not make it into the Conclusions part; an example of this is the *EC—Asbestos* report, where claims under the SPS Agreement are invoked by the complainant(s) in the panel establishment request, is discusses in the first part of the report, but is not evaluated in the Conclusions.

There are in total 2 352 claims in the data set. For 350 of these, the panels do not state a winning party, in most instances citing judicial economy as the reason for not issuing findings.[13] It seems likely that the panels in such instances typically only spent a limited amount of time on the claims. But there could also be other reasons. For instance, in DS22 *Brazil—Desiccated Coconut* the panel finds that none of the claims refers to applicable law. Yet the panel report still runs over more than 100 pages in total, so the dismissal of the case did require a significant effort. This raises the difficult question of how to deal with claims for which the panels do not issue a clear accept or reject on substance: should these claims be treated on par with the other claims, or should they be excluded from the data set?

We do not have a direct measure of the time each panel devotes to the various claims. But it can be noted that the average time a panel spends per claim is lower, the larger the fraction of claims for which the panel does not issue a determination. For instance, the average time per claim is 106 days for disputes with only findings of acceptance or rejection, while it drops to 39 days for disputes with at least one claim that is not adjudicated in this manner. It can also be noted that for the latter group of disputes, the mean fraction of claims that are not adjudicated is 0.30. It thus appears as if different forces determine the amount of time required when panels make accept or reject decisions, and when they refrain from so doing. In what follows we will therefore only include claims that the panels explicitly accepted or rejected.[14] This brings the total number of claims in the data set to be used to 1990.

Table 2.1 gives some descriptive statistics concerning the number of claims, and the frequency distribution for the number of claims is illustrated in Figure 2.3. The mean number of claims per dispute is just above 14. In 73 of the 140 disputes, 8 or fewer adjudicated claims are made. The two extreme are *EC – Biotech Products* and *China – Audiovisual Products*, with 90 and 121 claims, respectively.

Claims seem to clearly be increasing over time (Figure 2.4), the significance of which can be seen in Table 2.3, second column. The highly significant coefficient for *EstabDate* suggests that adding 5 years to the establishment date, adds around 5 claims to be evaluated by the panel. This is perhaps not a large number for the disputes at the high end in terms of the number of claims. But it constitutes a considerable increase for the majority of disputes in the data set: an increase with 5 claims would amount to a doubling or more of the number of adjudicated claims in close to 60 of the disputes.

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[13] See Busch and Pelc (2011) for an extensive discussion of the notion of judicial economy, and for an analysis of possible reasons why panels choose this path.

[14] This method has the unfortunate consequence to distort the domestic instruments variable to be defined below. This can most clearly be seen from the fact that for the above-mentioned *Brazil—Desiccated Coconut,* the number of claims becomes zero, which would seem to be a logical impossibility. In this particular case, it seems clear that the classification of the outcome in the data set is incorrect – it should instead have been classified as a rejection of the complainant's claims. We therefore change this observation in this regard. It might well be however, that other claims are similarly misclassified.

Figure 2.3: The frequency distribution for *Claims*
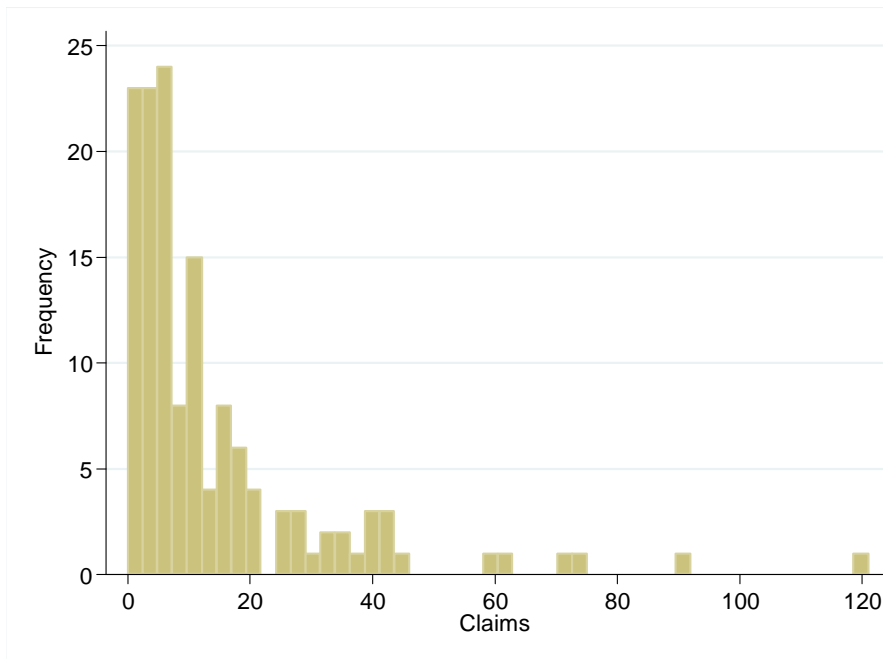
Figure 2.4: *Claims* against *EstabDate* with fitted linear trend
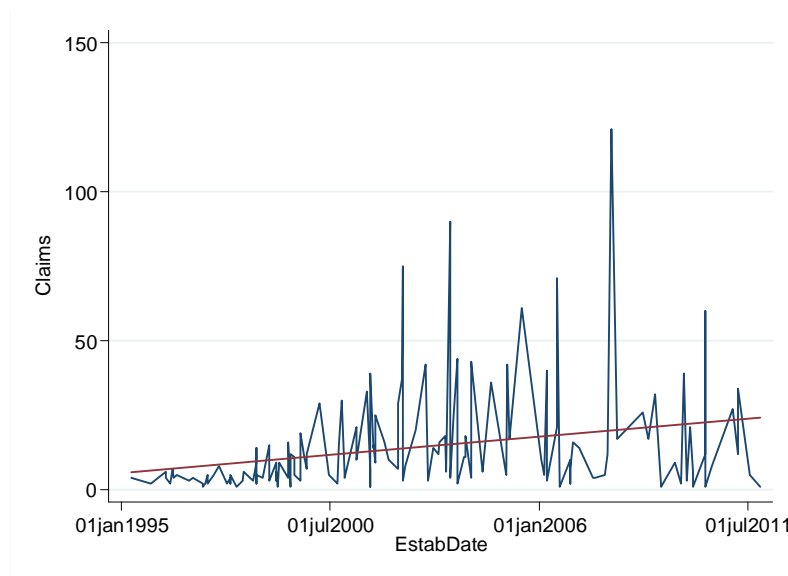
2.4 The conceptual difficulty facing panels

The second aspect of panels workloads that we would like to capture is the conceptual difficulty they face when addressing the complaints. We will for obvious reasons here have to rely on very crude measures. Indeed, we do not even have a precise definition of what we want to capture. But at the same time, it is quite clear that the conceptual complexity *is* a likely contributing factor to the amount of time required. We will therefore use several

variables to capture what we believe are different potentially relevant aspects of the complexity.

2.1.1 Legal complexities

As discussed in the Introduction, a main argument in the policy debate has been the allegation that claims concerning regulatory policies cause particular problems for panels. Such claims could be made under a number of different provisions. But such policies are particularly likely to be addressed through invocations of certain agreements and provisions. We will therefore employ a variable denoted *DI* (shorthand for "domestic instruments") that captures the number of invocation of such agreements and provisions. *DI* is defined as the sum of claims made under the following agreements or provisions:

- the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement;
- the Agreement on Technical Barriers to Trade (TBT Agreement);
- Arts. 2, 5, and 7 of the SCM Agreement;
- Art. III GATT (National Treatment); and
- Art. XX(b) and XX(g) GATT. [15]

Of course, this list does not exhaust all provisions that regulate domestic instruments. For instance, Art. I GATT applies to both border and domestic instruments. Nor do all invocations of these agreements/provisions necessarily concern domestic regulations in the sense implied by the argument above; for example, Art. III GATT may be invoked to challenge what by most accounts looks like a simple protectionist domestic tax. But it seems plausible that among the agreements/provisions in the WTO Agreement, those included in the *DI* variable are among those that are most likely to capture claims concerning domestic instruments of regulatory nature.

Table 2.4 lists the number of times some agreements and provisions have been invoked, drawing on the H&M Data Set. The listed claims together account for 1 814 out of the 1 990 adjudicated claims in the data set. Appendix 1 provides a listing of the disputes for which there are *DI* claims.

The most striking feature in Table 2.4 is of course the dominance by the Antidumping Agreement (AD), which accounts for 36 percent of all the claims; we will discuss the role of AD in Section 4.

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[15] Art. XX GATT list certain grounds for general exceptions to the GATT commitments. Art. XX(b) concerns measures that are "necessary to protect human, animal or plant life or health", and Art. XX(g) measures "relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption". A total of 12 such claims are included in the *GATT_XXDI* variables. Not included are claims that just refer to Art. XX, except for that we include the one claim that is made in each of the *US – Shrimps* case, and the *EC – Asbestos* case. We disregard claims that refer to Art. XX(d).

The time pattern for *DI* is given in Figure 2.5, which excludes *EC – Biotech* (for which *DI* is 90) to enhance readability. *DI* seem to increase over time, and this positive trend is significant at the 5% level when regressing *DI* against *EstabDate* (including *EC – Biotech*), as reported in Table 2.3. But the estimated coefficient is small, suggesting that a 5 year difference between two establishment dates would only result in a difference of about 0.7 claims. Prima facie it appears as if the total number of claims in disputes has not increased enough to justify a claim that the increase has created serious problems for panels in general.

Table 2.4: The distribution of claims[16]

Agreement/provision	No of claims	% of claims
GATT_I	15	0.8
GATT_II	50	2.8
GATT_III	72	4.0
GATT_VI	46	2.5
GATT_X	44	2.4
GATT_XI	24	1.3
GATT_XIX	31	1.7
GATT_XX	28	1.5
Agreement on Antidumping	712	39.3
SCM Agreement	321	17.7
Agreement on Safeguards	155	8.5
SPS Agreement	130	7.2
TRIPs	41	2.3
GATS	41	2.3
Agreement on Agriculture	31	1.7
TBT Agreement	27	1.5
Agreement on Customs Valuation	15	0.8
Agreement on Textiles and Clothing	13	0.7
Agreement on Rules of Origin	8	0.4
Agreement on Import Licensing Procedures	6	0.3
Agreement on Trade-Related Invest. Measures	4	0.2
Total	1 814	100

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[16] The formal titles of some of the agreements differ from what is used here.

Figure 2.5: *DI* against *EstabDate* with fitted linear trend
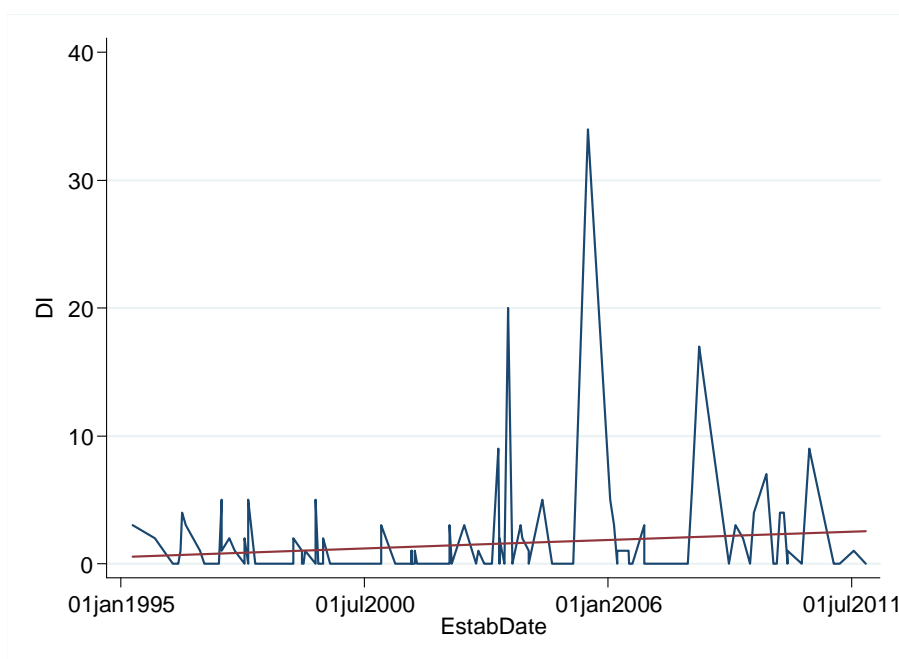
2.1.2 Scientific complexities

A highly reliable signal that a dispute deals with a conceptually complex subject should be that it uses experts. To capture this, we will use a variable *Experts* that measures the number of experts per dispute. Information concerning the use of experts is taken from the H&M Data Set. It shows that there are in total 10 disputes where experts have been formally used – "formally", since panels occasionally consult e.g. economists in the WTO Secretariat without calling them as regular experts. In these disputes, a total of 47 experts have been heard. These disputes are listed in Table 2.5.

Table 2.5: The disputes in which experts have been used

DSNo	ShortTitle	Experts
26	*EC—Hormones*	6
44	*Japan—Film*	2
18	*Australia—Salmon*	4
58	*US—Shrimp*	5
76	*Japan—Agricultural Products II*	3
135	*EC—Asbestos*	4
245	*Japan—Apples*	4
291	*EC—Biotech Products*	6
320	*US—Continued Suspension*	6
367	*Australia—Apples*	7
	Sum	47

With regard to the time pattern, 6 of the 10 panels that have used experts were established during the first 4 years of the period 1995–2012. However, there are too few observations to infer any clearer trend.

It should be noted that since panels may request the use of experts, the variable is not exogenous to panel decisions. On the other hand, it does seem plausible that panels respond fairly "automatically" to the need to listen to experts whenever disputes require technical or scientific understanding, and that the use of experts hence reflect some feature of the workload facing panels, rather than some aspect of the panel itself.[17] Slightly more problematic, the use of experts may involve administrative tasks that take time. Hence, if we were to find that disputes where experts are called require longer time to adjudicate, this could in principle reflect the administrative burden, rather than the conceptual complexity of the issues at stake.

2.1.3 Political complexities

There are certain policy areas that one would suspect to be particularly difficult for panels to address because of political sensitivities. One such area is public health. The domestic instruments variable introduced above should however capture this reasonably well . But certain policies may tend to fall outside the reach of the provisions in *DI*. One such area is environmental policy. Such policies could be attacked through use of the agreements/provisions in the *DI* variable. But it is conceivable that complaints may use other legal grounds such as Most-Favored Nation principles. Another obvious policy area is agriculture. To examine whether disputes concerning environmental and agricultural issues affect the amount of time required for panels beyond their influence through the variables included above in the base model, two further variables are included.

First, the dummy variable *Env* is used to indicate disputes that address policies that are at least partly motivated with references to environmental concerns. It is not possible to define such concerns with any precision, partly since the notion "environmental" is not well-defined itself. We therefore have to subjectively classify disputes as addressing environmental policies in a broad sense of the term; Table 2.6 lists the disputes that are classified as such and indicated by the variable *Env.*

Second, to capture disputes over agricultural policies, the variable *AG* measuring the number of claims which refer to the Agreement on Agriculture. There are in total 33 such adjudicated claims, and they are made in 10 different disputes, with the maximum number of claims (11) being made in *US—Upland Cotton*; the 10 disputes are listed in Table 2.7. There is a rather weak negative time trend for *AG,* as can be seen in Table 2.3.

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[17] As we have argued elsewhere, panels and the Appellate Body have not shown the same wisdom when it comes to the evaluation of econometric evidence and economic reasoning.

Yet another indication of a politically sensitive dispute is that the panelists are selected by the WTO Director General. The normal procedure envisioned in the DSU is that the parties accept panelists who are proposed by the WTO Secretariat. In practice however, there are many disputes where the parties cannot agree. It seems plausible that in such circumstances, the dispute is more politically charged (or more complex in some other sense), compared to when the parties agree on panelists. To see whether this intuition is borne out in the data, the model includes a dummy variable *DGAppoint* that indicates when the panelists have been appointed by the WTO Director General. This is the case in 82 of the 138 disputes. As evidenced by Table 2.3, there is a clear time trend toward more appointments being made by the DG. Regressing *Time* on *DGAppoint* while including the time trend *EstabDate* yields a positive coefficient that is significant at the 5% level.

Table 2.6: Environmental disputes

DSNo	ShortTitle
2	*US—Gasoline*
26	*EC—Hormones*
18	*Australia—Salmon*
58	*US—Shrimp*
135	*EC—Asbestos*
245	*Japan—Apples*
291	*EC—Biotech Products*
332	*Brazil—Retreaded Tires*
367	*Australia—Apples*
394	*China—Raw Materials Exports*
412	*Canada—Renewable Energy*

Table 2.7: AG disputes

DSNo	ShortTitle
22	*Brazil—Desiccated Coconut*
69	*EC—Poultry*
90	*India—Quantitative Restrictions*
103	*Canada—Dairy*
108	*US—FSC*
161	*Korea—Various Measures on Beef*
207	*Chile—Price Band System*
265	*EC—Export Subsidies on Sugar*
267	*US—Upland Cotton*
334	*Turkey—Rice*

2.1.4 A simplifying factor: case law

There are a couple of factors that might contribute to facilitate the work for panels. One such factor is the development of a body of case law, which should serve to reduce at least the legal

complexity. Although panels are not formally bound by previous case law, panels are under pressure to incorporate the case law in their decisions; indeed, the AB has expressed their expectation that panels will follow its determinations. Panels are also likely to avoid seeing their determinations being overturned by the AB on appeal. Since the AB decisions are made in light of earlier panel decisions, later panels may be indirectly affected by the decisions of earlier panels, even though panels are formally not bound by earlier decisions. Yet another related reason for dependence over time is that even if a panel would feel completely free in it choice of reasoning and outcome, it may be persuaded by arguments and interpretations in previous decisions.

It should be noted that a large case law may add to the time required for panels to issue reports, since there is more legal material that panels have to take into consideration. However we still believe that a more prominent feature of a large case law is that it reduces the time panels need to spend on interpreting the law, since previous judges have already done much of the required thinking.

In order to capture such effects, we will employ a variable denoted *CaseLaw*. To see its construction, let $Claims_d^c$ be the number of times that a claim of type *c* (Art. III.2 GATT, say) is invoked in dispute *d*. Also, let $CaseLaw_d^c$ denote the magnitude of the case law on claims of type *c* for the panel in dispute *d*. It is for simplicity assumed to be given by the total number of claims of type *c* that have been adjudicated in earlier disputes; it can hence be written as

$$CaseLaw_1^c = 0$$

$$CaseLaw_d^c = \sum_{h}^{d-1} Claims_h^c; d \geq 2$$

where the index *h* indicates earlier disputes. This is the case law for a particular claim for panel *d*. The total case law that the panel in dispute *d* can draw on, denoted $CaseLaw_d$, will depend on the composition of claims it is to adjudicate. Let the total case law for the panel in dispute *d* be the sum of the case law for each of the claims it adjudicates:

$$CaseLaw_d = \sum_{c=1}^{n_d^c} CaseLaw_d^c$$

Where n_d^c is the number of claims concerning provision *c* in dispute *d*. The variable *CaseLaw* hence consists of the values *CaseLaw₁,...,CaseLawₙ* where *n* is the number of observations in the data set.

Needless to say, this is a very crude measure of the impact of case law. For instance, it is linear in the number of times a particular provision has been adjudicated. While it might seem

more natural that there would be a declining marginal impact; a non-linear specification will be put to use in Section 4. It also has a pronounced convex feature in that it tends to increase very fast for the type of provisions that are cited many times, such as the AD. To see this, consider the following example:

Claims in dispute 1: Art. 1; Art. 1; Art. 2; Art. 2; Art. 2; Art. 2
Claims in dispute 2: Art. 2; Art. 2; Art. 2
Claims in dispute 3: Art. 1

In this example, $CaseLaw_2$ would take the value 12, since for each of the three Art. 2 claims in dispute 2, the panel can lean against four earlier determinations, while $CaseLaw_3$ would take the value 2.

To illustrate the development of the case law, Figure 2.7 plots *CaseLaw* against the circulation date for reports. That there is an upward trend follows by construction, since certain provisions will be invoked time and again. This time trend is highly significant, as can be seen from Table 2.3. Figure 2.7 illustrates also the "convex" feature of the measure.

Figure 2.7: The development of *CaseLaw* with fitted linear trend
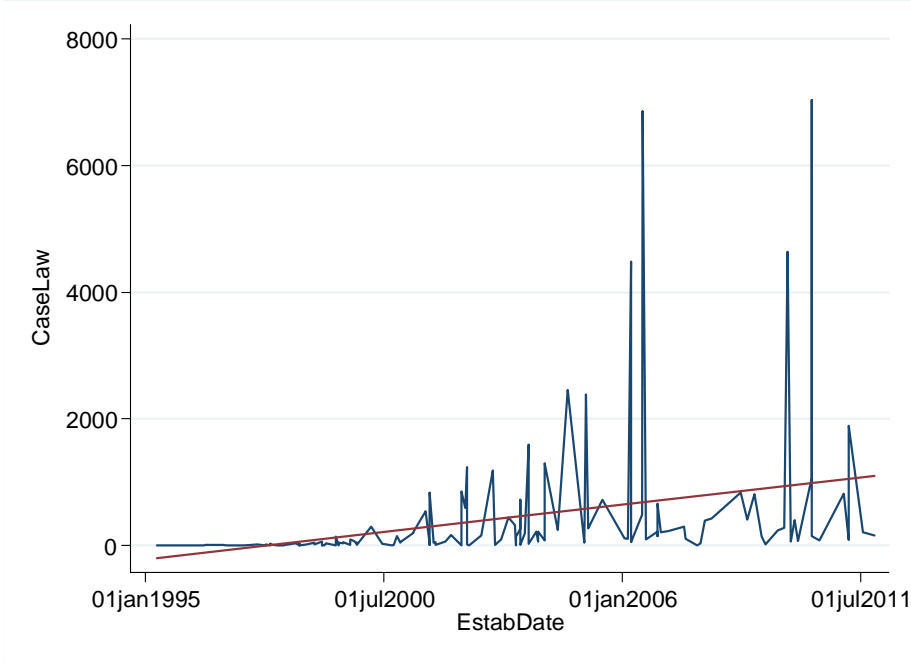
2.1.5 Another simplifying factor: panelists' experiences

Yet another factor that may contribute to time dependence, and which has received some attention in the literature, is the possibility that panelists learn over time. This might affect the time required in various ways. For instance, the experience might for obvious reasons

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contribute to shortening the time required for a panel to complete the tasks. Or, alternatively, more experienced panelists may be selected for more difficult cases, in which case there might instead be a positive association between the experience of panelists and the time required to complete their tasks.

To capture possible learning by the panelists, the variable *Exper* gives for each dispute the sum of the number of panels that each of the three panelists have previously served on. Figure 2.8 shows for the evolution of the accumulated experience of panelists over time. Of course, since only WTO panels are included, there will by construction be an increase after the first period where no panelists had previously served on panels. Figure 2.8 indicates that panels became increasingly experienced until around 2001–2, when the trend appears to have stagnated. But the positive time trend is still highly significant, as can be seen from Table 2.3.

Figure 2.8: The experience of panelists over time with fitted linear trend
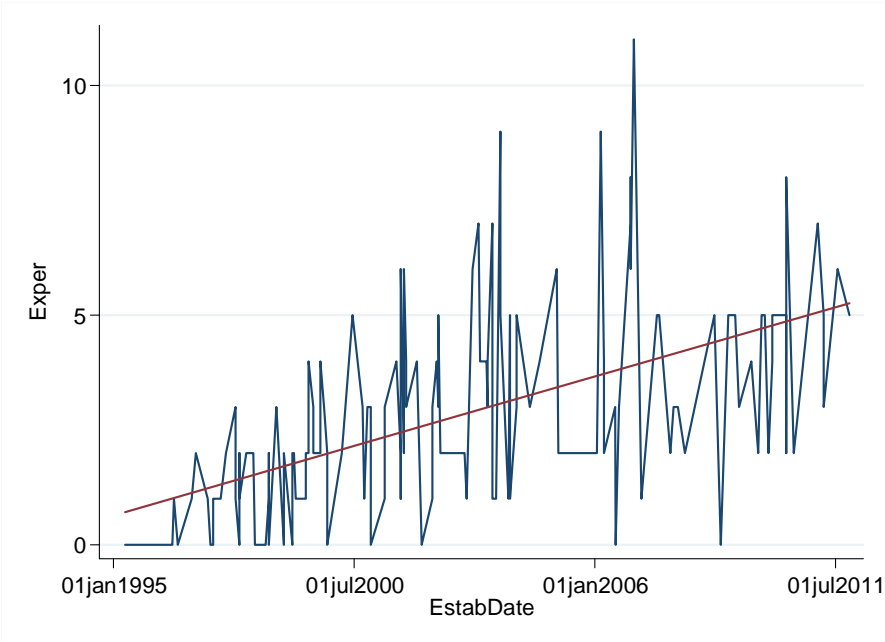
3   Accounting for the time required for panels to issue report

We now turn to our main issue: the relationship between the time required to issue reports, and the volume and complexity of the panel workloads. In order to capture this, the following specification will be estimated:[18]

$$
\begin{aligned}
Time_d = a_0 &+ a_1 Claims_d + a_2 DI_d + a_3 Experts_d \\
&+ a_4 Env_d + a_5 AG_d + a_6 DGAppoint_d \\
&+ a_7 CaseLaw_d + a_8 Exper_d + a_9 EstabDate_d + \varepsilon_d
\end{aligned}
$$

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[18] See below for a discussion of alternative specifications.

The linearity of the model reflects the assumption that there are constant marginal contributions of the right-hand side variables to the amount of time required to complete reports, an assumption that seems reasonable at least as it comes to *Claims* and *DI*.

A question that arises is how to deal with the extreme disputes in terms of the time panel require to issue reports. On the one hand, it would be awkward to omit the observations that most clearly suggest that very heavy workloads are put on panels, since it might be hard to convincingly argue that the time required for these disputes, or their length, were determined by other forces than those at play in other disputes. Alternatively, they are statistical anomalies, and their inclusion will conceal the relationships of interest. But we will nevertheless exclude from the regressions in this section, the two extreme disputes in terms of the time required to issue reports, the Airbus/Boeing disputes (DS316 and DS353). The reason is largely pragmatic: the model performs better statistically when the two disputes are excluded. For instance, residuals are much closer to being normally distributed, which allows more trust in significance levels etc. But the next section, which discusses robustness issues, will report some of the implications of including these observations.

Table 3.1 provides a correlation matrix based on the 138 observation data set. As can be seen, the correlations are mostly modest. Among the right-hand side variables, most highly correlated are *Env* and *Experts* (0.67), and *Claims* and *CaseLaw* (0.56).

Table 3.1: Correlation matrix

	Time	Claims	DI	Experts	Env	AG	DGApp.	CaseLaw
Claims	0.29	1.00						
DI	0.44	0.41	1.00					
Experts	0.31	0.04	0.43	1.00				
Env	0.17	0.01	0.35	0.67	1.00			
AG	0.01	-0.05	-0.03	-0.05	-0.06	1.00		
DGApp.	0.24	0.19	0.11	-0.04	-0.09	-0.01	1.00	
CaseLaw	0.07	0.56	-0.03	-0.07	-0.07	-0.06	0.11	1.00
Exper	0.28	0.17	0.10	0.01	-0.03	0.02	0.23	0.08

Table 3.2 reports the outcome of regressing *Time* separately on each of the right-hand side variables described in the previous section, using robust OLS estimation, and for each regression also including the time trend *EstabDate*. Table 3.3 gives the results from running the full model, again with robust OLS.

A number of observations can be made. The variable capturing the volume effect, the number of number of claims, is significant at the 1% level, and with the expected positive sign. The quantitative impact seems fairly modest however: the estimate suggests that each claim adds just over a day and a half to the time required to issue reports.

Four of the five variables that are meant to capture conceptual complexity come out significant, and with expected positive signs. The domestic instruments variable is significant at the 5% level. But according to the estimated coefficient, each domestic instruments claim adds just over three days to the time required for issuing a report. The limited quantitative importance of this variable is somewhat surprising, given the often expressed view in the policy debate that it is in particular these types of provisions that cause problems for panels. This view is also supported by the partial regression reported in Table 3.2, where each such claims is estimated to add 8 days to the time needed to issue a report, and where the estimate is significant at the 1% level.

Table 3.2: Partial OLS regressions for *Time*

VAR.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Claims	2.20*							
	(1.15)							
DI		8.21***						
		(0.77)						
Experts			60.5***					
			(15.4)					
Env				157**				
				(68.6)				
AG					7.66***			
					(2.89)			
DGAppoint						53.3**		
						(24.6)		
CaseLaw							-0.00070	
							(0.0083)	
Exper								5.35
								(9.28)
EstabDate	0.025***	0.029***	0.036***	0.032***	0.032***	0.028***	0.031***	0.027***
	(0.0086)	(0.0073)	(0.0073)	(0.0077)	(0.0078)	(0.0077)	(0.0088)	(0.010)
Constant	10.1	-35.1	-150	-80.4	-67.9	-33.2	-62.4	-13.4
	(123)	(109)	(110)	(116)	(115)	(111)	(129)	(141)
Observations	138	138	138	138	138	138	138	138
R-squared	0.171	0.297	0.369	0.188	0.114	0.139	0.111	0.115

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The variable capturing scientific complexity, *Experts,* is significant at the 1% level, and according to the estimate each expert is associated with an additional 60 days to issue a report. Experts are used mainly in cases involving domestic instruments claims; 9 out of the 10 disputes in which experts have been used include at least some claims under the agreements/provisions included in *DI.* On the other hand, there are 41 domestic instruments cases without any experts, and the correlation coefficient between *DI* and *Experts* is not higher than 0.43.

Turning to the variables intended to capture political complexities, Table 3.2 shows that in the partial regression for *Time,* the environmental variable *Env* is positively related to the time required to issue reports, controlling for a linear time trend, (there is no discernible time trend in *Env*, however), and the relationship is significant at the 5% level. Furthermore, the magnitude of the effect is quite large: environmental disputes require more than 5 months longer for the report to be issued. However, the environmental variable is insignificant in the base model reported in Table 3.3 (and it even appears with wrong sign). The variable capturing agricultural disputes fares much better however: *AG* is significant at the 1% level, and the estimated coefficient suggests that each such claim adds 12 days. The dummy for disputes with DG appointed panelists is also significant, but only at the 10% level. The sign is the expected, and the estimated quantitative impact—53 days—is noticeable.

Table 3.3: OLS regression for *Time*

VARIABLES	(1) OLS Base
Claims	1.66***
	(0.63)
DI	3.09**
	(1.35)
Experts	60.2***
	(21.3)
Env	-66.8
	(70.1)
AG	11.7***
	(2.70)
DGAppoint	42.8*
	(21.7)
CaseLaw	-0.013
	(0.0080)
Exper	-3.52
	(5.88)
EstabDate	0.033***
	(0.0096)
Constant	-138
	(132)
Observations	138
R-squared	0.476

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

The two variables capturing factors that should ease the task for panels—a large case law and previous panel experience—turn out to be insignificant both in the partial and the full regressions, reported in Tables 3.2 and 3.3, respectively. The poor performance of these

variables may reflect problems with their specification, and Section 4 will briefly discuss alternative formulations of these variables.

Finally, the variable capturing the role of the independent evolution of calendar time, *EstabDate*, comes out significant at the 1% level in all the partial regressions, as well as in the complete model. According to the estimated coefficient in the full model, adding 5 years to the establishment date adds around 60 days to the time required for a panel to issue a report, for given levels of all the other variables. It can be noted that this is not the full effect of the evolution of time, since several of the other right-hand side variables also have positive time trends.

To conclude, the results above indicate that both the volume of work put before panels, as well as the three types of complexities that were suggested above, are positively associated with the time required for panels to issue reports. It can be noted that despite the simplicity of the model, it still explains a fair amount of the variation, with a R^2 value of 0.48. But there is also a highly significant positive time trend, independent of the time trends in the other right-hand side variables.

4 Robustness

In order for the approach employed above to be valid, a number of properties should be fulfilled. We will therefore here discuss a number of robustness aspects of these findings.

First, in order to use confidence levels etc, the residuals should be normally distributed. A kernel density plot of the residuals (not included) suggests that this requirement is reasonably well fulfilled.

Second, since panel reports are largely drafted by the WTO secretariat, one might suspect that the workload of the Legal Affairs Division of the WTO Secretariat might affect the time it takes to issue reports. This could result in a form of autocorrelation, where during the Division's busy periods disputes take longer time than otherwise to complete. Such problems would not be addressed by the White robust estimation of the standard errors employed above (which should address problems with heteroscedasticity, however). To verify that autocorrelation is not a problem, the base model is rerun with Newey-West standard errors, with a one- and two-period lag. The pattern of significance is in both cases the same as reported above. It thus appears as if autocorrelation does not pose any serious problem for the results above.[19]

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[19] Given the time trend in several of the right-hand side variables, one could possibly suspect some problems with multicollinearity. But *EstabDate* should address this potential problem. Also, the rather low correlations in Table 3.1 suggest multicollinearity is not a problem, as does the fact that a variance inflation factor test including all right-hand side variables yields a maximum VIF value of 2.09, and a mean VIF of 1.65.

4.1 Model and variable specifications

The specification employed above seems natural as a first shot at the issue, but it is of course easy to point to questionable features.

4.1.1 The panelist experience variable

It has been assumed that what matters for panel experience is the combined experience of the whole panel. But what mattered in the study by Busch and Pelc (2009) was the experience of the chairman as a panelist. The base model has therefore been run with an indicator of the number of panels that the chairman has served on, rather than the panelists combined. But the results are essentially the same as those reported in the first column in Table 3.3.

4.1.2 The case law variable

The poor performance of the case law variable might at least partly be blamed on its construction, in that it assumes that the impact of the case law for a certain provision is linear (with zero intercept) in the number of adjudicated claims for this provision. To capture a case where the marginal effect is declining, the following concave specification is used:

$$CaseLaw_1^c = 0$$

$$CaseLaw_d^c = \ln(1 + \sum_h^{d-1} Claims_h^c); \; d \geq 2$$

As it turns out, this seemingly more reasonable specification performs even more poorly than the variable included above.

4.1.3 The variable capturing the volume of work

In the above the volume of work facing panels was measured by the number of claims they have to adjudicate. This seems intuitively appealing, since although the panel can in principle decide whether to rule or not on each of the claims that are made, citing e.g. judicial economy when not making a determination, panels are in practice still rather bound by the claims they face.

Another reflection of the workload a panel has faced when issuing a report, is the length of the panel reports. While it is possible that both complexity and the volume aspect add to the length of reports, it seems plausible that the length of reports is mainly determined by the latter. As illustrated by Table 4.1, the length of reports (including appendices), as captured by the variable *Pages,* vary greatly across panels. 46 reports are shorter than 200 pages, while 22

reports exceed 500 pages, and 5 reports exceed 1 000 pages.[20] The two extreme values on the right hand side in Figure 2.2 are *US – Upland Cotton* (2 085 pages), and *EC – Biotech Products* (2 434 pages), as can be seen in Table 2.2.

Table 4.1: The number of pages for the six longest reports

DSNo	ShortTitle	Time	Pages
353	*US—Large Civil Aircraft (2nd complaint)*	1 868	879
316	*EC—Large Civil*	1 507	1 182
320	*US—Continued Suspension*	1 138	1 124
291	*EC—Biotech Products*	1 127	2 434
322	*US—Zeroing (Japan)*	569	1 104
267	*US—Upland Cotton*	540	2 085

Figure 4.2: *Time* vs *Pages* for all 140 disputes
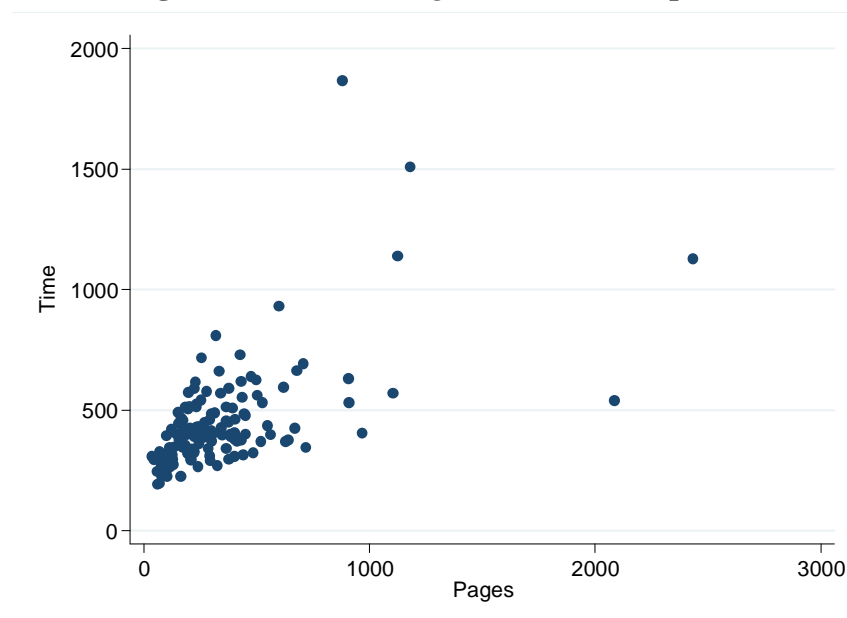
One should expect a positive relationship between *Time* and *Pages* in light of the fact that writing long reports take time. Figure 4.2 shows that there is indeed such a relationship. But with a correlation coefficient of 0.59, the variables are still far from perfectly correlated. As can be seen from Table 4.2 – which for ease of comparison also includes the regression reported in Table 3.3 – the inclusion of *Pages* has substantial consequences: it is significant at the 1% level with expected sign, and an additional 5 pages is estimated to be associated with one additional day of work for a panel. Also, the inclusion of *Pages* implies that neither of *Claims, DI, AG,* and *DGAppoint* is significant any longer. It is not clear what conclusion to draw from this; a VIF test (mean 1.88, max 2.69) does not show any indication of a more severe problem with multicollinearity. On the one hand, the number of claims seems to be a

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[20] The information is taken from the WTO web site.

better measure of the volume aspect of panel workloads. On the other, the number of pages does also seem to capture some relevant aspect, and it is somewhat disturbing that the inclusion of this variable has such an impact on the outcome.

Table 4.2: OLS regression for *Time* with and without *Pages*

VARIABLES	(1)	(2)
Claims	1.66***	0.81
	(0.63)	(0.66)
Pages		0.19***
		(0.050)
DI	3.09**	0.24
	(1.35)	(1.67)
Experts	60.2***	48.6***
	(21.3)	(15.9)
Env	-66.8	-54.9
	(70.1)	(53.9)
AG	11.7***	-8.51
	(2.70)	(9.47)
DGAppoint	42.8*	19.8
	(21.7)	(20.8)
CaseLaw	-0.013	-0.012
	(0.0080)	(0.0082)
Exper	-3.52	-5.25
	(5.88)	(5.93)
EstabDate	0.033***	0.032***
	(0.0096)	(0.0092)
Constant	-138	-142
	(132)	(126)
Observations	138	138
R-squared	0.476	0.532

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

4.1.4 Controlling for the identity of respondents

There are several reasons why the amount of time required for panels to issue reports could be affected by the identities of both complainants and respondents. For instance, panels can be slowed down by parties that are uncooperative in various ways; for instance, they can be slow to answers questions posed by the panels, they can delay meetings, bring up formalities, etc. It is not inconceivable that there are systematic differences across countries in their behavior in this regard. It is also possible that some of the right-hand side variables might interact with the identity of the respondent.

As can be seen from Table 4.3, in the disputes in the data set, only 20 WTO Members have acted as respondents (the information is taken from the H&M Data Set). Noticeable is the dominance by the US, which has been respondent in 40 percent of the disputes. This can be compared to e.g. the EU, which only serves as respondent in less than 15 percent of the disputes.[21]

Table 4.3: The respondents

Country	Freq.	Percent	Cum.
US	55	39.9	39.9
EU	20	14.5	54.4
Canada	9	6.5	60.9
Argentina	6	4.4	65.2
China	6	4.4	69.6
Korea	6	4.4	73.9
Mexico	6	4.4	78.3
India	5	3.6	81.9
Japan	5	3.6	85.5
Australia	3	2.2	87.7
Brazil	3	2.2	89.9
Chile	2	1.5	91.3
Dominican Republic	2	1.5	92.8
Guatemala	2	1.5	94.2
Thailand	2	1.5	95.7
Turkey	2	1.5	97.1
Colombia	1	0.7	97.8
Egypt	1	0.7	98.5
Indonesia	1	0.7	99.3
Philippines	1	0.7	100.0
Total	138	100.0	

In order to capture any country-specific effects, regressions have been run with 19 country dummies. Dummies for complainants have not been included, mainly since there are often more than one complainant, making it hard to apportion the blame for delays, and partly since it seems likely that the time required for issuing reports is mainly affected by recalcitrant respondents.

Including the 19 respondent dummies in the OLS specification reported in Tables 3.3 reduces the level of significance somewhat, but all variables that are reported as significant in this table remain so also with the respondent dummies included. Nor is there any dramatic impact on estimated parameter values.

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[21] This can be compared with appearances as respondents in Requests for Consultation. During this period, the EU has been the respondent roughly 75% as often as the US. It thus appears as if US disputes far more often result in panel determinations.

4.1.5 The linear specification

A more critical issue is probably the linearity of the model specification. It is chosen partly since it seems as a reasonable first approximation for certain variables, such as those capturing the number of claims. But the appropriateness of the assumption can be questioned on the ground that a Ramsey regression specification error (RESET) test yields $F(3, 123) = 1.86$, and $\text{Prob} > F = 0.140$. Judging by augmented component-plus-residual plots (with a bandwidth of unity), it appears as if the problem is in particular associated with the *EstabDate* variable; the plot for the latter is illustrated in Figure 4.2.

Figure 4.2: Augmented component-plus-residual plot for *EstabDate*
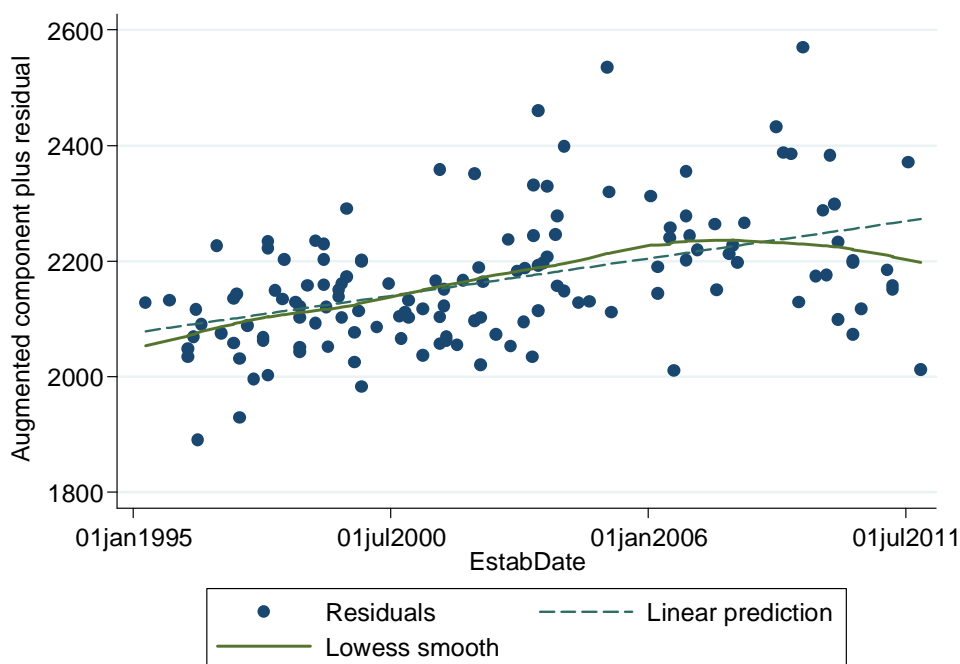
4.1.6 The ad hoc model specification

Finally, a somewhat less ad hoc approach than that employed above would be to start from a formal model for the determinants of the time required to issue reports. This would allow us to identify the structural form of the equation(s) to be estimated. As one possible step in this direction, assume the time required for dispute d, $Time_d$, be given by:

- a constant a_0 that reflects e.g. the time any dispute takes to administrate, to write the standard parts of reports etc;
- plus the time it takes for panel d to address each claim concerning domestic instruments, denoted t_d^{DI}, times the number of such claims $Claims_d^{DI}$;
- plus the corresponding time for addressing the non-domestic instruments claims, which are denoted as "border instruments" (indicated with superscript "BI");

- plus the time that is required to use each expert, a_3, times the number of $Experts_d$ used by panel d; and
- less the time that is gained for each panel the panelists in dispute d have served on before, a_4, times the number of panels that the panelists in dispute d have previously served on, $Exper_d$.[22]

Excluding for simplicity variables capturing political sensitivities, the total time required for dispute d would then be:

$$Time_d = a_0 + t_d^{BI} Claims_d^{BI} + t_d^{DI} Claims_d^{DI} + a_3 Experts_d - a_4 Exper_d$$

Assume furthermore that the time it takes for panel d to address each claim concerning domestic instruments decreases in the accumulated amount of case law on domestic instruments as follows:

$$t_d^{DI} = \frac{b^{DI}}{1 + CaseLaw_d^{DI}}$$

where

$$CaseLaw_d^{DI} = \sum_{i=1}^{d-1} Claims_i^{DI}$$

with corresponding expressions for border instruments claims. The total amount of time for a dispute d could then be written:

$$Time_d = a^0 + b^{BI} \frac{Claims_d^{BI}}{CaseLaw_d^{BI}} + b^{DI} \frac{Claims_d^{DI}}{CaseLaw_d^{DI}} + a_3 Experts_d - a_4 Exper_d$$

This relationship could then be estimated, with controls for responding countries, etc. The hypothesis to be examined would then be that the estimate for the coefficient b^{DI} is larger than that for b^{BI}. Preliminary attempts to estimate this relationship give significant positive parameter estimates for b^{DI} and b^{BI}, and with the former significantly larger than the latter, as predicted by the "theory".

4.2 The impact of specific disputes

Certain disputes feature extreme values for some of the variables. There are therefore reasons to suspect that the results above might be highly sensitive to the exact choice of the disputes that are included in the estimation. It is not clear how to view this, however. As mentioned above, perhaps these more extreme disputes are very clear representatives of the type of problems that in the policy debate are claimed to threaten the functioning of the dispute settlement system, or alternatively they are just statistical anomalies. Regardless of which

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[22] This experience could more reasonably be assumed to be specific to the type of claims (BI/DI) that the panelists have adjudicated in the past.

view one takes, it is desirable to understand the impacts of these disputes. In what follows, we will point to three such aspects.

First, the data used above excluded the two Airbus-Boeing disputes, DS316 and DS353, which were extreme in the amount of time it took before reports were issued. The second column in Table 4.4 reports the implication of including these disputes (the Table again repeats the base estimation, reported in Table 3.3 above). As can be seen, the inclusion of these two disputes have considerable consequences for the *Claims* variable, which drops from being significant at 1% level to not being significant even at the 10% level. The significance of *DI, Experts, AG,* and *EstabDate,* is also reduced, but increases in the case of *DGAppoint.*

As a second sensitivity test, the base model is rerun without DS291 *EC—Biotech* in the data set. The rationale for omitting this observation is clear from the linear plot of *Time* against DI in Table 4.4, and the added-variable plot for *DI* in Figure 4.3b. In Figure 4.3a, DS291 is the observation in the upper right corner; as can be seen this simple linear plot suggests that DS291 will importantly affect the relationship between the two variables. This is confirmed by Figure 4.3b, which suggests that the estimated model is heavily influenced by the presence of DS291. The observation thus appears to be a "bad leverage point", affecting both the slope and the intercept of the line.

Column (3) in Table 4.4 reports the implication of running the model without DS291. As can be seen, this leaves the results basically unchanged in most regards. But it does imply that *DI* becomes insignificant.

Figure 4.3a: Linear plot for *Time* against *DI* with and without DS291
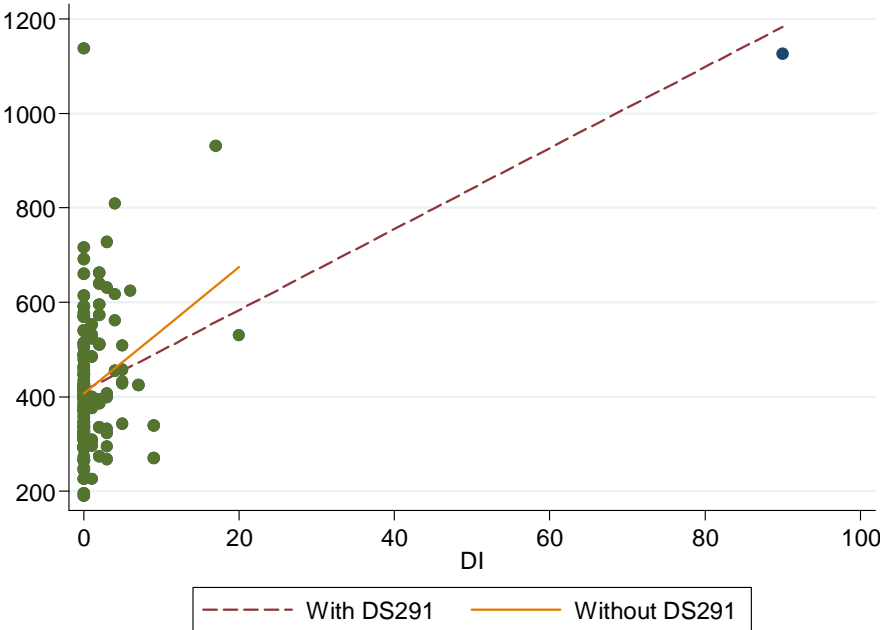
Figure 4.3b: Added-variable plot for *DI* with DS291 in the data set

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coef = 2.70, (robust) se = 1.60 t = 1.69

Finally, as was shown above, a large fraction of the disputes concern antidumping measures. This is potentially problematic, since there are reasons to believe that AD disputes differ from other disputes in several ways.[23] To examine the sensitivity of the results to the presence of AD dispute, the model is rerun without the 40 disputes in which AD claims have been made, the result of which is reported in column (4) of Table 4.1. The main impact is that *Claims* loses all its significance. It hence appears as if the quantitative aspect of panel workloads is mainly relevant for AD disputes. However, given the large share of such disputes, they can hardly be seen as outliers, but must rather be viewed as core features of the DS system. It is also noteworthy that R^2 increases from 0.48 to 0.57 as a result of excluding AD disputes.

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[23] For instance, a large number of AD disputes – 15 out 40 AD cases – have concerned essentially the same issue, "zeroing".

Table 4.4: OLS *Time* regressions using different data

VARIABLES	(1) OLS Base	(2) OLS +DS316&DS353	(3) OLS -DS291	(4) OLS -AD
Claims	1.66***	1.28	1.66***	0.36
	(0.63)	(1.05)	(0.63)	(0.73)
DI	3.09**	7.04*	2.17	4.06***
	(1.35)	(4.24)	(4.10)	(1.48)
Experts	60.2***	47.3**	60.6***	62.1***
	(21.3)	(23.3)	(21.6)	(19.7)
Env	-66.8	-82.9	-65.7	-82.1
	(70.1)	(74.4)	(69.1)	(67.4)
AG	11.7***	7.73*	11.7***	12.5***
	(2.70)	(4.62)	(2.75)	(3.67)
DGAppoint	42.8*	54.1**	43.2**	36.8
	(21.7)	(24.3)	(21.7)	(24.0)
CaseLaw	-0.013	-0.011	-0.013	-0.0086
	(0.0080)	(0.011)	(0.0084)	(0.096)
Exper	-3.52	8.80	-3.94	-5.03
	(5.88)	(17.1)	(6.24)	(9.37)
EstabDate	0.033***	0.028**	0.033***	0.048***
	(0.0096)	(0.013)	(0.010)	(0.012)
Constant	-138	-83.3	-146	-358**
	(132)	(167)	(140)	(168)
Observations	138	140	137	98
R-squared	0.476	0.339	0.380	0.577

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

4.3 MM regressions

The two recent aircraft disputes DS316 and DS353 were excluded from most of the estimations above as outliers. But there is clearly no guarantee that all problems are resolved in this regard. Indeed, the exclusion of the *EC-Biotech* dispute above indicated sensitivity to this dispute with regard to the estimated parameter for the domestic instruments variable. There are reasons to suspect that the problem is more pervasive than this, however, due to the extreme nature of some of the disputes involved. A better estimation method than OLS might therefore be MM regression.[24] Table 4.2 reports the consequences of running the model for the four different sets of observations used in Table 3.2, but with MM regression instead of OLS. The table also repeats in the first column the results from the base model when estimated with OLS.

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[24] See Verardi and Croux (2009).

Table 4.2: MM regressions using different data

VARIABLES	(1) OLS Base	(2) MM Base	(3) MM +DS316&DS353	(4) MM -DS291	(5) MM -AD
Claims	1.66***	1.37*	1.37**	1.40**	1.64***
	(0.63)	(0.72)	(0.68)	(0.66)	(0.62)
DI	3.09**	5.83***	5.81***	4.32	6.27***
	(1.35)	(0.70)	(0.67)	(3.18)	(0.37)
Experts	60.2***	9.22	9.39	9.32	11.4
	(21.3)	(14.0)	(12.8)	(12.2)	(9.97)
Env	-66.8	44.3	43.7	46.8	44.0
	(70.1)	(70.1)	(63.7)	(61.5)	(43.5)
AG	11.7***	14.5***	14.4***	14.6***	18.2***
	(2.70)	(2.41)	(2.48)	(2.54)	(2.63)
DGAppoint	42.8*	15.4	16.3	17.0	-2.84
	(21.7)	(24.0)	(23.3)	(23.6)	(17.6)
CaseLaw	-0.013	-0.0060	-0.0060	-0.0067	-0.082
	(0.0080)	(0.013)	(0.012)	(0.011)	(0.076)
Exper	-3.52	0.0024	0.039	-1.09	-11.2
	(5.88)	(8.60)	(8.05)	(8.50)	(6.77)
EstabDate	0.033***	0.026	0.025	0.026	0.040**
	(0.0096)	(0.030)	(0.027)	(0.025)	(0.016)
Constant	-138	-47.6	-45.1	-51.6	-244
	(132)	(406)	(366)	(344)	(218)
Observations	138	138	140	137	98
R-squared	0.476				

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

A comparison of the outcomes of the OLS and the MM regressions yields several observations: The relevance of *Claims* is strengthened, since it is even more significant in the MM regressions than with OLS regressions. The same applies to *DI,* with the caveat that *DI* continues to be insignificant when *EC-Biotech* is excluded. The significance of *AG* is also confirmed by the MM regressions. Furthermore, comparing estimated parameter values for significant variables, it appears as if the magnitudes are fairly similar, and the pattern of significance does not seem to vary much across the four different runs. On the other hand, *Experts* is no longer as significant in any of the MM regressions, nor is *DGAppoint.* It can also be noted that *EstabDate* is insignificant in all MM regressions.

The more general conclusion that emerges is hence that the MM regressions confirm the correlation between the time required to issue reports, and the quantitative, as well as certain complexity aspects of panel workloads.

5 Concluding discussion

The ability of WTO dispute settlement panels to efficiently perform their tasks is subject to debate. The analysis above has focused on one aspect of their performance: the time required for panels to issue reports. Judging by the statutory time limits laid down in the DSU, just a quick glance at the data suggests that not all is well in this regard. But it is also evident that there is considerable variation across disputes in the time panels take. The purpose of the paper is to identify characteristics of panels that require particularly long periods of time to issue reports.

The analysis builds on the notion that the time panels require increases in both the volume and the conceptual complexity of their tasks. The complexity can in turn be decomposed into complexity stemming from unclear legal regimes, from scientifically difficult issues, and from political complexity. But panels should be able to perform their tasks quicker in cases where there is a lot case law to draw on, and when panelists have substantial previous experience from acting as panelists. The paper uses OLS and MM regressions to highlight the relationship between the time required to issue reports, and variables intended to capture these various factors that are hypothesized to affect the amount of time that is required.

The general picture that emerges is that both the volume, and certain aspects of the complexity, of panel workloads seem to matter. With regard to the latter, a consistent pattern is that disputes with many invocations of the Agreement on Agriculture are particularly time consuming. But the two other factors meant to capture political sensitivities – the variables indicating environmental disputes, and appointment of panelists by the WTO DG – are not significantly related to the amount of time required for panels. The variable meant to capture the complexity of the legal regime – the domestic instruments variable – was highly significant in all regressions as long as *EC—Biotech* was included in the data set, but insignificant once this dispute was excluded. This is somewhat surprising in light of the difficulty panels are said to have to address complaints concerning these provisions. Finally, the factors that were hypothesized to reduce the amount of time required – a large earlier case law, and panelists' experience from previous panel work – do not seem to have any impact.

It was also found that for given levels of the other right-hand side variables, there is according to the OLS regressions a clear independent trend for panels to require increasingly long time to issue reports, despite the fact that the right-hand side variables also tend to increase over the years. This feature is not present with the MM regressions, however. We therefore prefer to see it as an open question whether such a trend exists in any meaningful way. There is a reason to suspect such a trend to exists, however: it seems likely that panels at least during the early days of the WTO era felt a certain stigma from exceeding the statutory time limits in the DSU. This stigma should presumably have declined substantially over the years, however, because of the failure of virtually all panels in this respect.

The more general conclusion to be drawn from the above is that when looking at the performance of the dispute settlement system, the conclusions are likely to be sensitive to the exact specification of included disputes, since a number of disputes are "extreme" in one or

the other manner. *EC—Biotech* is an example of this, but there are also some other disputes that importantly influences the outcome here. The appropriate choice of disputes to include will of course depend on the exact issue and hypothesis at stake. For instance, if the interest is in the factors that affect the amount of time required by panels in the median type of disputes, the Airbus/Boeing disputes might be seen as statistical anomalies. On the other hand, such disputes may be seen as clear examples of exactly the type of problems that need to be addressed according to some observers. It appears as if more precision would help clarify the policy debate in this regard.

Appendix 1: The disputes and the data for the base model

Obs no	DSNo	ShortTitle	Time	Claims	DI	Experts	Env	AG	DSApp.	CaseLaw	Exper
1	2	*US—Gasoline*	294	4	3	0	1	0	0	0	0
2	8	*Japan—Alcoholic Beverages II*	274	2	2	0	0	0	0	2	0
3	18	*Australia—Salmon*	428	5	5	4	1	0	0	0	0
4	22	*Brazil—Desiccated Coconut*	226	4	0	0	0	1	0	0	0
5	24	*US—Underwear*	248	6	0	0	0	0	0	0	0
6	26	*EC—Hormones (US)*	455	4	4	6	1	0	0	6	1
7	27	*EC—Bananas III*	379	7	1	0	0	0	1	5	0
8	31	*Canada—Periodicals*	268	5	3	0	0	0	0	13	0
9	33	*US—Wool Shirts and Blouses*	264	2	0	0	0	0	0	5	0
10	34	*Turkey—Textiles*	444	3	0	0	0	0	0	4	2
11	44	*Japan—Film*	531	3	1	2	0	0	1	9	1
12	46	*Brazil—Aircraft*	265	5	0	0	0	0	1	0	0
13	50	*India—Patents (US)*	289	4	0	0	0	0	0	0	2
14	54	*Indonesia—Autos*	385	5	2	0	0	0	1	10	1
15	56	*Argentina—Textiles and Apparel*	273	2	0	0	0	0	0	1	1
16	58	*US—Shrimp*	400	2	1	5	1	0	0	2	1
17	60	*Guatemala—Cement I*	456	2	0	0	0	0	1	0	0
18	62	*EC—Computer Equipment*	345	1	0	0	0	0	0	2	1
19	69	*EC—Poultry*	225	8	1	0	0	1	0	19	2
20	70	*Canada—Aircraft*	265	14	0	0	0	0	1	28	2
21	75	*Korea—Alcoholic Beverages*	336	2	2	0	0	0	1	20	1
22	76	*Japan—Agricultural Products II*	343	5	5	3	0	0	0	15	1
23	79	*India—Patents (EC)*	312	2	0	0	0	0	1	4	3
24	87	*Chile—Alcoholic Beverages*	574	2	2	0	0	0	1	24	2
25	90	*India—Quantitative Restrictions*	504	4	0	0	0	1	1	3	0
26	98	*Korea—Dairy*	333	9	0	0	0	0	0	0	1
27	99	*US—DRAMS*	378	1	0	0	0	0	1	0	2
28	103	*Canada—Dairy*	418	6	0	0	0	4	0	8	0
29	108	*US—FSC*	381	4	0	0	0	3	0	20	3
30	114	*Canada—Pharmaceutical Patents*	410	3	0	0	0	0	1	0	0
31	121	*Argentina—Footwear (EC)*	337	2	0	0	0	0	0	2	1
32	122	*Thailand—H?Beams*	314	12	0	0	0	0	0	8	0
33	126	*Australia—Automotive Leather II*	337	3	0	0	0	0	1	37	0
34	132	*Mexico—Corn Syrup*	429	15	0	0	0	0	0	45	0
35	135	*EC—Asbestos*	663	3	2	4	1	0	0	16	2
36	136	*US—1916 Act (EC)*	424	6	0	0	0	0	0	14	2
37	138	*US—Lead and Bismuth II*	309	1	0	0	0	0	0	0	2
38	139	*Canada—Autos*	375	9	1	0	0	0	1	61	0
39	141	*EC—Bed Linen*	369	11	0	0	0	0	1	69	3
40	146	*India—Autos*	399	4	3	0	0	0	1	52	0
41	152	*US—Section 301 Trade Act*	295	9	1	0	0	0	1	35	1

42	155	*Argentina—Hides and Leather*	512	5	2	0	0	0	0	52	2
43	156	*Guatemala—Cement II*	398	19	0	0	0	0	1	98	4
44	160	*US—Section 110(5) Copyright Act*	386	4	0	0	0	0	1	0	1
45	161	*Korea—Various Measures on Beef*	432	16	5	0	0	4	0	145	2
46	163	*Korea—Procurement*	320	1	0	0	0	0	0	0	2
47	165	*US—Certain EC Products*	397	12	0	0	0	0	1	49	4
48	166	*US—Wheat Gluten*	371	11	0	0	0	0	0	34	3
49	170	*Canada—Patent Term*	226	3	0	0	0	0	1	8	2
50	174	*EC—Trademarks and Geog. Indications*	530	25	20	0	0	0	1	189	1
51	176	*US—Section 211 Appropriations Act*	314	15	0	0	0	0	1	10	1
52	177	*US—Lamb*	398	7	0	0	0	0	0	27	2
53	179	*US—Stainless Steel*	399	10	0	0	0	0	0	43	2
54	184	*US—Hot-Rolled Steel*	345	29	0	0	0	0	1	301	2
55	189	*Argentina—Ceramic Tiles*	315	5	0	0	0	0	0	45	3
56	192	*US—Cotton Yarn*	346	5	0	0	0	0	0	25	5
57	194	*US—Export Restraints*	291	2	0	0	0	0	0	4	3
58	202	*US—Line Pipe*	371	30	0	0	0	0	1	148	3
59	204	*Mexico—Telecoms*	716	7	0	0	0	0	1	0	1
60	206	*US—Steel Plate*	339	7	0	0	0	0	1	35	2
61	207	*Chile—Price Band System*	417	21	0	0	0	1	1	202	1
62	211	*Egypt—Steel Rebar*	414	33	0	0	0	0	0	545	4
63	212	*US— Counterv. Meas. Cert. EC Products*	324	25	0	0	0	0	1	7	3
64	213	*US—Carbon Steel*	296	9	0	0	0	0	1	52	4
65	217	*US—Offset Act (Byrd Amendment)*	389	15	1	0	0	0	1	45	6
66	219	*EC—Tube and Pipe Fittings*	591	39	0	0	0	0	0	841	6
67	221	*US—Section 129(c)(1) URAA*	326	14	0	0	0	0	0	87	2
68	222	*Canada—Aircraft Credits and Guarant.*	322	10	0	0	0	0	1	220	3
69	231	*EC—Sardines*	309	1	1	0	0	0	1	6	1
70	236	*US—Softwood Lumber III*	296	16	0	0	0	0	1	63	4
71	238	*Argentina—Preserved Peaches*	392	10	0	0	0	0	0	171	0
72	241	*Argentina—Poultry ADDuties*	370	29	0	0	0	0	1	857	3
73	243	*US—Textiles Rules of Origin*	361	8	0	0	0	0	0	0	2
74	244	*US—Corrosion-Resist. Steel Sunset Rev.*	449	37	0	0	0	0	1	597	4
75	245	*Japan—Apples*	407	3	3	4	1	0	1	20	5
76	246	*EC—Tariff Preferences*	308	3	1	0	0	0	1	10	1
77	248	*US—Steel Safeguards*	403	75	0	0	0	0	1	1237	3
78	257	*US—Softwood Lumber IV*	332	20	3	0	0	0	1	158	2
79	264	*US—Softwood Lumber V*	461	42	0	0	0	0	0	1184	2
80	265	*EC—Export Subsidies on Sugar*	413	4	0	0	0	4	1	12	1
81	267	*US—Upland Cotton*	540	14	0	0	0	11	1	96	6
82	268	*US—OCTG Sunset Rev.*	424	16	0	0	0	0	1	449	4
83	269	*EC—Chicken Cuts*	570	2	0	0	0	0	1	24	5
84	273	*Korea—Commercial Vessels*	595	6	2	0	0	0	1	137	4
85	276	*Canada—Wheat Exports, Grain Imports*	270	18	9	0	0	0	1	327	4
86	277	*US—Softwood Lumber VI*	320	12	0	0	0	0	1	383	7
87	282	*US—AD Meas. on OCTG Goods*	661	16	0	0	0	0	0	724	1

88	285	*US—Gambling Services*	478	7	0	0	0	0	1	0	3
89	291	*EC—Biotech Products*	1127	90	90	6	1	0	1	259	7
90	294	*US—Zeroing (EC)*	615	43	0	0	0	0	0	1303	5
91	295	*Mexico—AD Measures on Beef and Rice*	577	44	0	0	0	0	1	1596	9
92	296	*US—CVD Investigation on DRAMs*	395	11	2	0	0	0	1	66	5
93	299	*EC—CVD measures on DRAM Chips*	511	18	2	0	0	0	0	216	1
94	301	*EC—Commercial Vessels*	399	4	1	0	0	0	1	79	3
95	302	*Dominican Republic—Cigarettes*	322	11	3	0	0	0	0	221	1
96	308	*Mexico—Taxes on Soft Drinks*	458	6	5	0	0	0	0	244	3
97	312	*Korea—Certain Paper*	396	36	0	0	0	0	1	2453	4
98	315	*EC—Selected Customs Matters*	375	17	0	0	0	0	1	272	2
99	316	*EC—Large Civil Aircraft*	1507	61	34	0	0	0	1	723	2
100	320	*US—Continued Suspension*	1138	5	0	6	0	0	1	41	6
101	322	*US—Zeroing (Japan)*	569	42	0	0	0	0	1	2390	2
102	331	*Mexico—Steel Pipes and Tubes*	448	40	0	0	0	0	0	4482	4
103	332	*Brazil—Retreaded Tires*	508	10	5	0	1	0	1	118	2
104	334	*Turkey—Rice*	553	3	1	0	0	1	1	57	2
105	335	*US—Shrimp (Ecuador)*	195	1	0	0	0	0	0	101	3
106	336	*Japan—DRAMs (Korea)*	389	21	1	0	0	0	0	490	3
107	337	*EC—Salmon (Norway)*	512	71	0	0	0	0	1	6865	0
108	339	*China—Auto Parts*	631	10	3	0	0	0	1	220	7
109	341	*Mexico—Olive Oil*	590	14	0	0	0	0	1	227	1
110	343	*US—Shrimp (Thailand)*	491	2	0	0	0	0	1	151	8
111	344	*US—Stainless Steel (Mexico)*	420	7	0	0	0	0	1	662	6
112	345	*US—Customs Bond Directive*	465	16	0	0	0	0	1	207	11
113	350	*US—Continued Zeroing*	485	4	0	0	0	0	1	294	5
114	353	*US—Large Civil Aircraft (2nd compl.)*	1868	5	3	0	0	0	1	104	9
115	360	*India—Additional Import Duties*	355	4	0	0	0	0	0	108	5
116	362	*China—Intellectual Property Rights*	489	5	0	0	0	0	1	5	2
117	363	*China—Audiovisual Products*	624	121	6	0	0	0	1	390	3
118	366	*Colombia—Ports of Entry*	541	12	0	0	0	0	0	33	3
119	367	*Australia—Apples*	931	17	17	7	1	0	1	426	2
120	371	*Thailand—Cigarettes (Philippines)*	728	17	3	0	0	0	0	408	0
121	375	*EC—IT Products*	692	26	0	0	0	0	1	833	5
122	379	*US—AD and CVD (China)*	640	32	2	0	0	0	1	807	5
123	381	*US—Tuna II (Mexico)*	809	3	4	0	0	0	1	21	3
124	382	*US—Orange Juice (Brazil)*	514	2	0	0	0	0	1	284	2
125	383	*US—AD Measures on PET Bags*	308	1	0	0	0	0	0	145	5
126	384	*US—COOL*	617	3	4	0	0	0	1	63	5
127	392	*US—Poultry (China)*	425	9	7	0	0	0	1	239	4
128	394	*China—Raw Materials Exports*	561	21	4	0	1	0	1	406	2
129	396	*Philippines—Distilled Spirits*	524	1	1	0	0	0	1	69	5
130	397	*EC—Fasteners (China)*	406	39	0	0	0	0	1	4645	5
131	399	*US—Tyres (China)*	328	6	0	0	0	0	1	75	4
132	402	*US—Zeroing (Korea)*	245	1	0	0	0	0	0	149	8
133	404	*US—Shrimp (Viet Nam)*	419	12	0	0	0	0	1	1068	5

134	405	*EU—Footwear (China)*	435	60	0	0	0	0	1	7041	2
135	406	*US—Clove Cigarettes*	339	8	9	0	0	0	0	84	2
136	412	*Canada—Renewable Energy*	485	5	1	0	1	0	0	212	6
137	413	*China—Electronic Payment Services*	427	12	0	0	0	0	1	92	5
138	414	*China—GOES*	403	34	0	0	0	0	0	1892	3
139	415	*Dominican Republic—Safeguard Meas.*	289	27	0	0	0	0	1	819	7
140	422	*US—Shrimp and Sawblades*	191	1	0	0	0	0	0	161	5

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