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International Trade Barriers Complaints and Structural Employment: A Conceptual and Quantitative Macro-perspective

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Free trade is beneficial for all nations. Pareto optimality can be reached by trade without barriers, leading to maximizing total welfare of nations involved. Yet there are clear cases of complaining at the World Trade Organization (WTO) in which home bias is plausibly the reason for complaining, rather than objective criteria of the rules of trade agreements. Next to home bias in individual cases induced home bias leading to complaining at WTO might also be a trend. Using correlation and stepwise regression analysis a dataset on 28 complaining countries is analysed. The number of complaints at the WTO is the dependent variable in exploratory modeling. Independent variables are various variables on economic structure. Structural unemployment (SUN), agricultural import share, current account balance, international property rights (IPR), and foreign direct investment (FDI) turned out to be significantly related to the number of complaints. This is a strong indicator that complaining at the WTO is at least partly induced by other than objective factors. One of these factors other than objective factors could be considered as an induced home bias which leads to disruptive trade. The established relationship with one of these factors indicates the existence of induced home bias as an actual trend based on the outcomes of the analysis presented.

Keywords: trade barriers, complaints, structural employment, disruptive trade, home bias

Introduction

The current literature still needs to explore the relationship between the number of complaints filed at the World Trade Organization (WTO) and the economic indicators of the WTO members at the macro level. There is consensus among the economist about the role of an open economy in economic growth. The trade liberalization, the export promotion rather than import substitution has proven a key to the economic success. To attain the Pareto optimum in the international trade implies absence of tariffs or any other barriers; this leads to efficient use of resources and development of trade specializations, which leads to welfare, gains of the trading countries. All Pareto-efficient allocations are thus characterized by production efficiency (Keen & Kotsoginannis, 2012). Literature shows that it pays to be an open economy. The international trade barriers therefore form undesirable obstacles in this ever-globalizing world.

This is an explorative study in our journey to explore the phenomena of the trade complaints and factors

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which induce and motivate to file complaints. The purpose is to gain an insight into the factors which might be correlated with the number of complaints of the WTO member countries. The international trade barriers form an undesirable obstacle in this ever globalizing world. It could prove to be a difficult task to show such a direct relationship or causality at the macro level due to the interdependence of the economies. But the export debits but the imports do not. With this rationale the paper attempts to find out if there is any pattern, expressed by the international trade complaints due to perception of a barrier. An attempt is made to establish a pattern in the number of complaints filed by a government of a country against the national government of another country at the WTO. The complainants claim that there are barriers formed by the trade partner country, which export to a given country, against which a complaint is being filed. The study uses different techniques to find out the plausibility of the relationship between the number of international trade complaints ever filed at the WTO and the various indicators of the state of development of the complainant.

This research contributes in various ways. First it provides an up to date survey of macroeconomic literature on the subject of international trade and structural employment. Second, it provides exploratory conceptual models to show the theoretical possibility of causality between the possible complaint due to legal or non-legal trade obstacle, level of economic development, and the structural employment. In this context, we introduce the concept of disruptive trade. The disruptive trade is basically the antagonist of Pareto optimal trade. Third, the paper provides a quantitative analysis of various development indicators and the trade complaints at the WTO. The extensive data from the WTO from 1995 to 2012 is used to establish a pattern.

The preliminary results are encouraging. The conceptual models prove effective tools to provide a key, if not the path, to solve the home bias puzzle in international trade theory. The quantitative analysis shows the patterns emerging from the analysis like the number of complaints at the world trade centre may not be random with the current state of economic development, if not the current economic growth. The factors foreign direct investment (FDI), intellectual property rights payments (IPR), and structural unemployment (SUN) seem to explain the number of complaints. If the objective criteria or the factors related to the consent of international trade agreements should have had the upper hand, these variables should not have been involved in explaining the number of complaints. An example in the paper mentioned is the supposed flammability of Chinese textiles while it the report makes clear that the real problem is actually a home biased trade barrier at work (see Table 1).

Table 1

Inflammable Textiles or Quota

China-EU textile crises 2005
Chinese clothes exports to EU 5 September 2005 millions of textile and clothing goods from China are being held in European warehouses, because of a dispute over import quotas Chinese-made bras, blouses, and T-shirts are piling up at customs checkpoints across Europe, having already bumped up against import limits set earlier this year. A team of officials from the EU has been in Beijing trying to negotiate a way out of the crisis, so far to no avail. But European retailers are just as annoyed at the quotas as the Chinese... This showdown has been brewing for a while. When China became a member of the WTO in 2001, it did so under special terms that allowed importing countries to impose short-term "safeguards" on Chinese goods until 2013 if they could show those goods to be causing "material injury" to domestic producers. And separate measures for textiles allow safeguards to be imposed whenever imports threaten "market disruption". The expiry of the previous quota system made it inevitable that countries with big textile industries—such as France, Spain, and Italy—would press for quotas to be imposed. At best, the quotas are only delaying the inevitable.

The WTO, with the 159 members and 25 observers champions the cause of an open economy with trade liberalization policy. The WTO also facilitates the necessary organizational infrastructure for the members who

are perceived as not being kept to the treaties. The WTO is an international institution championing free trade. WTO states as it is one of the objectives as for "lowering trade barriers is one of the most obvious ways of encouraging trade; these barriers include customs duties (or tariffs) and measures such as import bans or quotas that restrict quantities selectively". Discouraging "unfair" practices, such as export subsidies and dumping products at below cost to gain market share is a complex issue. The rules try to establish what is fair or unfair and how governments can respond are very difficult?

A WTO member country may decide to complain against a particular country when it perceives trade barriers. These trade barriers, which are most probably against a certain treaty. Alternatively, it might also be a suspicion, when a country suspects an element of barrier against a treaty. It defines a WTO complaint, justified or otherwise, as a legal measure with strong national political backing and hidden economic motives. It is not possible to capture the hidden economic motives directly. It may be a sign of induced home bias. The action of lodging a complaint may be an unintentional or even an intentional induced home bias action.

This study examines the possible causality, which might exist between the complaints lodged by the member countries of WTO and the indicators of economic development including structural employment at a macro cross-country level. It focuses on the number of complaints, the share of three sectors, agriculture, mining, and oils and manufacturing in the gross domestic product and other indicators of development and economic structure like human development index and intellectual property rights.

Research Questions

This research puts the first step to find out if there is any evidence at the macro-level for the possible future consequence of the structural employment and other indicators of economic structure due to international trade patterns in a given country. The micro level case studies show the direct displacement of the employment opportunities in favour of low cost economies. It could prove to be a difficult task to show such direct relationship or causality at the macro level due to the interdependence of the economies. In ever globalizing world, the interdependence of the economies has been even more apparent, but export debits and import does not. With this rationale, the paper attempts to find out if there is any pattern that can be established in the number of complaints filed by a government of a country against the national government of another country. Appendix Table A6 provides a summary of a complaint lodged at WTO. From the positive perspective of economics, it establishes that the number of complaints at the WTO correlates with the current state of economic development, if not the current economic growth. The various economic development indicators show the current economic state of a given country.

The correlation between level of gross domestic product per capita and the other indicators of economic development and its linkages to the number of complaints is the focus of the research. The level of development is closely associated with the employment structure in the economic sectors, share of sectors in export and import and other factors. This includes an examination of a number of complaints and the employment and economic structure of the WTO member countries. The level of aggregation of the data has to be taken into account.

The following research question was formulated: a main research question that revolves around the factors, which could explain the complaining behaviour of the WTO member countries: "Which factors are responsible for the complaining behaviour of WTO member countries, if not objective factors, which are the other factors which could explain the complaining behaviour of WTO member countries?". Various sub-questions are

derived:

(1) What is (induced) home bias in relation to complaining referring to literature and theory?

(2) How may home bias lead to complaining behaviour of nations?

(3) Which countries complain and which economic factors can explain the variation in the number of complaints?

(4) Which variables can be used as proxy variables relating to these factors?

(5) Is it possible to model these variables and enter these in regression equations?

(6) How can these results be interpreted in relation to the hypothesis on factors inducing complaints?

(7) How can the analyses be further improved?

Table 2

Product Standards or Barriers to Poor Farmers

European Bureaucracy: Should the EU sell bent cucumbers?
For years, EU critics only had to mention the "bent cucumber rule" whenever they wanted to mock perceived European over-regulation. Now, the EU's agriculture minister has suggested scrapping a number of rules to ease the rising price of food. DPA Regulation first-class unbent European cucumbers.  According to European Commission: Regulation No. 1277/88, if a cucumber bends more than 10 millimetres per 10 centimetres (0.4 inches per four inches) in length, it cannot be categorized as "class one" and may therefore only be sold as a second-rate cucumber. But who wants to buy one of those? Most second-rate cucumbers—at least according to conventional wisdom—never make it to market.

Literature and Theory Overview

An open economy implies openness to the foreign trade, export, and import activities. The export results in the inflow of money and imports cause an outflow of money. Rationally each country wants to maintain or maximize its potential of its share in export and balance it with import if not reduce imports.

The economic circular flow for an open economy consists of five sectors; namely, the household sector, the firm sector, the financial sector, the government and the external sector. The model is presented in current time, which represents the accumulation of the entire initial situation, from which an economy has agreed to join WTO membership. It is assumed that the countries, which have joined WTO have been actively busy with the opening of the economy, making free trade free as much as possible. Households own the assets of the economy and distribute their incomes to consume and save. Exchange of goods takes place in perfectly competitive markets when it comes to international trade. The firm sector sells their products to household and to firms in the external sector. The household sell their labours and assets to the production sector. The available factors are utilized to the optimum level. The saving is made by the household sector to the bank, which is distributed by the bank to the firm sector. Furthermore, the countries have realized that import substitution is less optimal for the growth process than an export promotion strategy for growth. Being a part of the globalizing world and as a WTO member, it is imperative to lessen the trade barriers.

The government sector has to fulfill the wishes of not only the household sector, which is a supplier of labour but is also expected to be able to facilitate the firm sector. The firm sector should be able to produce the

goods at competitive prices. Furthermore, the external sector demands through WTO that there is strict adherence to the trade treaties and commitment to free trade. This may lead the government to the dilemma. If a country objectively has a commitment to free trade, she also expects a trade with a country with a commitment to free trade. A commitment to a free trade may be an unpopular policy initiative leading to the visible protest and perceived loss of employment opportunities. A country is open to foreign trade due to the various advantages of international trade. Most importantly, it is able to fulfill the demand of its household and firm sector.

The empirical study results indicate that massive capital accumulation of the export sector brought down Singapore's unemployment rate in the four decades before open trade policy was established (Kee & Hoon, 2004). Strong possible explanation for the strong European agricultural protection or the EU trade policy is home bias (Eriksson, 2006).War on Want is an international alliance of Non-Governmental Organizations (NGOs) concerned with issues of justice and with historical links to the labour movement. They are at the forefront of the trade justice movement claiming that free trade threatens the employment around the world.

The main areas of employment in services associated with exports were similar to those areas most prominent of employment in all service activities in Indonesia. The huge contribution of trade to employment is presumably a reflection of the labour intensive character of the trade activities associated with exports: exports of primary commodities for example, are likely to engage a large number of traders (Manning & Aswicahyono, 2012).

For the exporting country, when the foreign demand for its product increases, it needs to undertake the production activities, which implies that the employment opportunities in the exporting nation are likely to increase. Assuming all other factors like international competitiveness of the importing nation remains equal, its import increases. This may lead to a fall in the domestic demand for almost substitute domestic good or the domestic alternative for the foreign product, which is not competitive in international trade. This might result in the decrease in production and thereby decrease in the employment opportunities in the importing countries. This may further result in trade barriers by the importing countries. The economic growth and development is observed to commensurate with sector shifts in an economy. The primary sector loses its important share in the process of economic growth. As the country develops economically, a larger share of GDP is contributed by the secondary and tertiary sector. The importance of the primary sector declines in the generation of national income. The firm and, the consumer demand for foreign goods are purely rational choices, motivated by the maximization of budget. The government objectives are also to ensure the growth and development, SUN is essential to tackle. For a developing economy there are many obstacles, the problem of unemployment and the creation of structural employment opportunities is one of them. A chain of reasoning is provided about the way in which international property rights (IPR) or soaring FDI could lead to complaints of a WTO member country is depicted in Figures 1 and 2.

The international labour organization studies by Jansen and Salazar-Xirinachs (2012) mentioned that "... Perceptions of the employment impact of trade are probably one of the main explanations for the current stalling in multilateral trade negotiations... ".

This is not necessarily explicit and trade negotiators do not tend to put employment concerns forward as a reason for inflexibility in negotiation positions. Yet, perceptions of the employment impacts of trade liberalization are in many capitals an important determinant of the rank trade takes on the list of priorities for policy action. They also argue that:

"Trade liberalisation is unlikely to automatically create job miracles since successful integration into world markets tends to go hand in hand with the adoption of new technologies and productivity increases" (Jansen & Salazar-Xirinachs, 2012).

Figure 1. Chain of reasoning on complaints induced by home bias, a theoretical reasoning part one: IPR.

Please recall that the theory of Pareto optimality states that free trade is the optimum way of maximizing the welfare of the trading countries. The distortion in terms of any tariff, any non-tariff or voluntary trade restriction would distort the mechanism leading to sub-optimum or disruptive trade. How this disruptive trade may arise based on other than objective complaint behaviour is illustrated in the reasoning in Figures 1 and 2. In the era of globalization and trade liberalization, the protectionism is certainly not a policy that commensurate with WTO membership. The WTO stands for multilateral treaties and for lack of barriers.

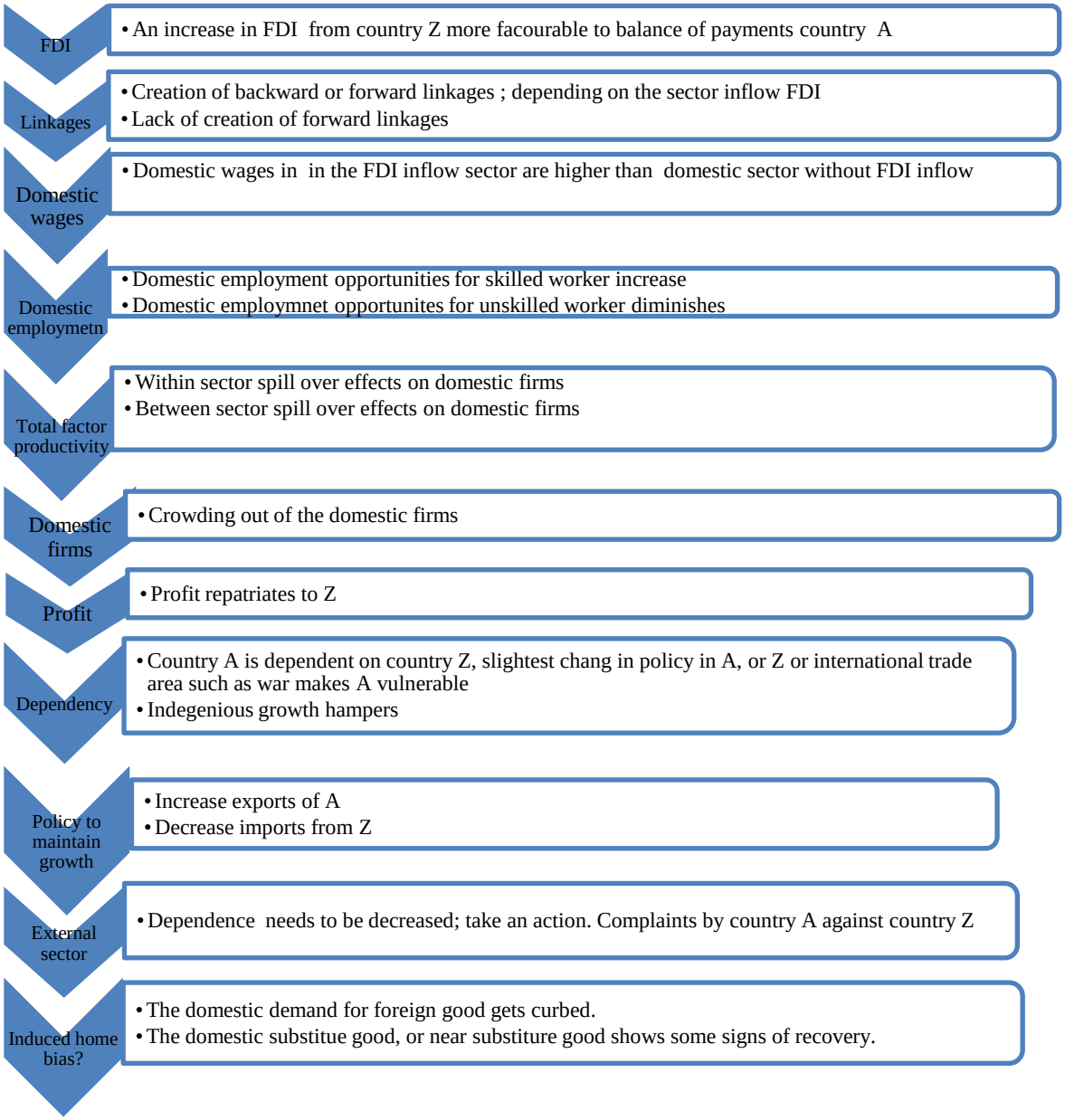

Figure 2. Chain of reasoning on complaints induced by home bias, a theoretical reasoning part two: FDI.

Methodology

The association between the trade barrier complaints and employment variable can be estimated by carrying out a regression analysis. The cross-section of above described development variable regressed on a set of regressors of two types: a measure of sector share and control variables. Various variables that are related to the sector share are explorative modeled. The dependant variable is the cumulative number of complaints across the years lodged by a WTO member country. These variables are entered in a regression equation using step-wise regression to estimate how much variation can be explained using the selected variables. Variables are mentioned in the Appendix A and described in the next section on literature and theory. The significant correlations between the number of complaints as a dependent variable and a number of other independent

variables are described in Appendix Table A2. The data of the correlation table are explored further by entering each variable into the regression equation stepwise. In this way, the model is estimated including only significant variables and excluding others in the first stepwise regression. In the second equation all variables are entered, correlated to the number of complaints or not.

This paper makes use of a cross section country data analysis. The data used are the secondary source mainly from World trade data organization and the World Bank. Appendix Table A3 gives the number of complaints lodged treaty wise, Appendix Table A4 gives an overview of WTO complaints year wise. Appendix Table A4 gives the overview of the number of complaints lodged by a country and their respective per capita gross domestic product. The main dependent indicators are the number of complaints lodged by a WTO member country and another is the number of complaints that has been lodged against a country. In the first case, a country is a complainant and in the later, a country is a respondent. The number of complaints lodged at the WTO is aggregated at the country level until 2012 (see Appendix Table A5). Since complaints originate in trade relations who are regulated in General Agreement on Tariffs and Trade (GATT) and other treaty's. It decided to look for broadly for variables related to trade. Nearly half of the complaints relate to the agricultural sector, which was included for this reason. Appendix Table 6 gives an example of such a complaint lodged as it appears on WTO website.

The first set of data (see Appendix Table A1) is about: 99 countries, which have been, lodged either complaint or have a third party role. In this study only the countries the cumulative number of complaints against and not their role as respondents is studied. This data set includes EU, Chinese Taipei, and Chinese Hong Kong. A second set of data includes EU a sample of all the WTO complainants and plaintiff is taken that counts to 64 countries which have lodged complaints (EU omitted). The third sample is a small sample of 28 countries those who have been complaining and are also complained against by another WTO member country. This sample includes a diversified range of countries in terms of gross domestic product per capita GDPPC (GDP pro capita) and other indicators.

Sector Structure Related Variables

The SUN problem shows the state of joblessness caused not by lack of demand, but by changes in demand patterns or obsolescence of technology, and requiring retraining of workers and large investment in new capital equipment. The higher SUN implies some gestation time before the technology is adapted and internalized. The presence of technology and the presence of training possibilities do not imply higher occupational mobility among those who are facing this problem. This implies the production possibilities are at less than full potential, which in turn is expected to be negative with the number of complaints. Female industrial employment is expected to be positive because it would imply the presence of some skilled level jobs, which shows the participation of informal employment opportunity rather than informal disguised employment.

The gender differentiation is made for employment in industry and agriculture. Employment variables are differentiated gender wise where available. Import and export shares are considered as proxy variables of the sector structure of a given country. As the import share of a sector grows, this sector is relatively underdeveloped in this country (of course this sector can be rather developed in the absolute sense) and is clearly not developed enough to satisfy domestic demand in this country. As to export share it can be argued that if exports of a certain country increases this means that this sector is relatively overdeveloped (and again opposed to this it can mean that in absolute terms this sector can also be quite modest). It is expected that as the

import sector grows, it would mean that countries complain because the domestic market is affected. In these cases complaining is a defense mechanism. Towards the export share, it is expected that complaints might have an offensive origin where these are used not directly to protect the domestic production but indirectly through trying to open up foreign markets.

Table 1

The Variables and the Expected and Observed Sign of Correlation With the Number of Complaints

Variables	Expected sign	Observed sign
Share of agricultural imports	-	-
Share of Mfg in imports	-	-
Share of Mfg in exports	+	+
Share of mining and oil in imports	-	+*
SUN	-	+*
Female industrial *N*	+	+
Current account balance	-	-
FDI % GDP	+	+
GDPPC	+	+
HDI	+	+
IPR receipts	+	+
IPR payments	+	+

Notes. * denotes the divergence from the expected sign. "+": positively related; "-": negatively related.

The intellectual property IPR1 rights payments show the legal or official use of the foreign innovations made by the country for which they need to pay. This causes monetary outflow. The intellectual property right receipts IPR2 is the amount that the country is expected to receive. This variable shows the realized capacity, and not the potential, of the country to stay internationally competitive by innovating, patenting, and claiming intellectual property rights.

The gross domestic product per capita is the most basic macroeconomic indicator of the standard of living. The expected sign with this variable is positive. A growing GDP per capita would result in a greater number of complaints. The composite index of human development, gives a more representative picture of the economic development of a country. The expected sign of this variable is also positive. As the country develops economically the share of contribution by the primary sector, agriculture in the GDP composition becomes lesser and lesser. The imports show a dependency and the higher the dependency it is more likely that countries complain. A decreasing share of agriculture is expected to result eventually in lesser complains which results in a negative correlation. Towards imports of mining oils, it is reasoned similarly and a negative sign is expected, as for manufacturing imports.

There have been several studies about the role of FDI in the economic development, a topic beyond the scope of this paper. An open economy with favourable corporate governance is expected to receive higher FDI and it is expected to be positively correlated. Because of the probable overlap with the GDP pro capita indicator, of which it is also hypothesized that is it positively related to the number of complaints, such a relation is expected.

There are two variables where the observed sign differs from the expected sign. It is expected that the share of mining and oil in imports and SUN to be negatively correlated with the number of complaints. Apparently, the countries with a higher share of mining and oil in imports and countries with high SUN are

very poor and lack thereby the necessary legal infrastructure and the skilled human labour, which is needed to stand up and let the voice hear in the international arena of world trade.

Analysis by Exploratory Modeling: Preliminary Findings

The research shows that the complainers often get retaliation from the other countries and are put in the defendant's position. The complainants are also, more often than not defendants. Out of 159 members, 46 countries (including Chinese Hong Kong, Chinese Taipei, and EU) have lodged complaints against another country. The table pertaining to actual bivariate correlations is attached as Appendix Table A2. It provides prima facie evidence of a statistical association between complaints and employment and development indicators. This might involve causality but could be just as well only a statistical relation. The rigorous exploratory stepwise regression analysis tests are presented beneath.

Out of 366 GATT complaints, at least 159 have direct concerns with agricultural sector 43, 40% of the complaints are related to the agricultural sector. The inclusion of agricultural sector in import was therefore a logical one. GDP pro capita and the related HDI did correlate with the number of complaints but based on our further research there seems to be no causality with the number of complaints due to the fact that entering these variables in the equation invalidates the fit of the model. Even a dummy coding, in which the data were divided into a relatively poor group, and a relatively wealthy one, had no significant effect. This meant that both GDP and HDI are dropped from the analyses.

The significant correlation between the number of complaints as a dependent variable and the number of other dependent variables can be estimated by regressing the cross-section of above-described economic structure indicators on a set of regressors. The basic equation is as follows:

Regression model 1: step wise regression, entered variable correlate significantly to number of complaints:

$$\text{COMij} = E0j + \beta 1j\text{MG}ij + \beta 2jj\text{IPR}ij + \beta 3ij\text{CAB}ij + \varepsilon ij$$

where COM denotes the *j*-th aggregate number of complaints at the WTO, with *j* = (1 ... 28) for the *i*-th country in the sample; MG*ij* denotes the share of agriculture in imports in the country *i* when indicator *j* is used as the complaint aggregate, IPR*ij* denotes the payments of intellectual property rights in the country *i* and CAB is the current account balance; and εij is an error term.

Figure 3 summarizes our valid tested model 1.

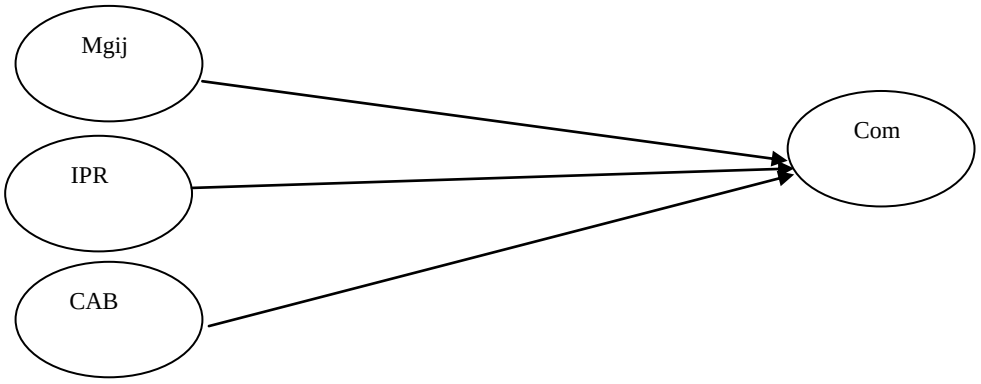

Figure 3. Our proposed conceptual model.

The intellectual property right is introduced as a possible explanatory variable when it turned out that it

was not possible to capture the impact of manufacturing or mining share in imports. The competitiveness of a sector in a given country can be determined by the number of patents, which, in itself, can be actively captured by the intellectual property right payments made by the government in order to maintain its structure of the economy or to diverge it to the desirable structure.

Table 3
Variables Entered/Removed[b]

Model	Variables entered	Variables removed	Method
1	Current account Bal, Alger M share, IPR payments		Enter

Note. All requested variables entered.

Table 4
ANOVA[a]

Model		Sum of squares	*df*	Mean square	*F*	Sig.
1	Regression	9,513,358	3	3,171,119	80,951	0.000[b]
	Residual	822,642	21	39,173		
	Total	10,336,000	24			

Note. Dependent variable: Complaints by; Predictors: (Constant), Current acctt bal, Agr M share, IPR payment.

Table 5
Coefficients of the Variables

Model		Unstandardized coefficients		Standardized coefficients	*T*	Sig.
		B	Std. error	Beta		
1	(Constant)	9.031	2.595			0.002
	IPR payment	1.96E-09	0	0.782	11.674	0
	Agr M share	-0.562	0.188	-0.194	-2.991	0.007
	Current acctt bal	-0.052	0.011	-0.331	-4.839	0

Note. Dependent variable: Complaints by.

In the stepwise regression analysis the variables which showed significant correlation with the complaints at the level of two tailed significance were entered. The Appendix Table A2 provides the information about the variables and their correlation. In model 1 only variables correlating to the dependent variable the number of complaints was entered using step-wise regression. Tables 3, 4, and 5 show the results of the step wise analysis. Appendix Table A2 provides the information about the variables and their correlation.

The IPR payments represent the ability of the firms to keep them competing with the help of for example foreign patents and foreign products. This is the monetary outflow from the firm sector. The most important reason for the inclusion of the current account balance as a variable because it has a direct impact on the visible macro factors of a country and a negative sign on the balance of payments could induce home bias inspired strategies. After an exercise in which a number of suspected proxy variables were accepted and others dropped, our exploration leads to the depicted model 1. In the second stepwise regression analysis, the variables which show significant correlation with the complaints at two-tailed significance level together with variables that did not correlate to the dependant variable were entered, leading to alternative model 2.

Regression model 2: Result stepwise regression analysis (all variables initially entered):

The regression equation is as follows:

$$\mathrm{COM}ij = E0j + \beta 1j\ \mathrm{SUN}ij + \beta 2jj\mathrm{IPR}ij + \beta 3ij\mathrm{FDI}ij + \varepsilon ij$$

where COM denotes the *j*-th aggregate number of complaints at the WTO, with j = (1, ..., 28) for the *i*-th

country in the sample; SUN*ij* denotes the SUN in an economy the country *i* when indicator *j* is used as the complaint aggregate, IPR*ij* denotes the payments of intellectual property rights in the country *i* and FDI is as percentage of GDP, and εij is an error term.

Figure 4 summarizes our valid tested model 2.

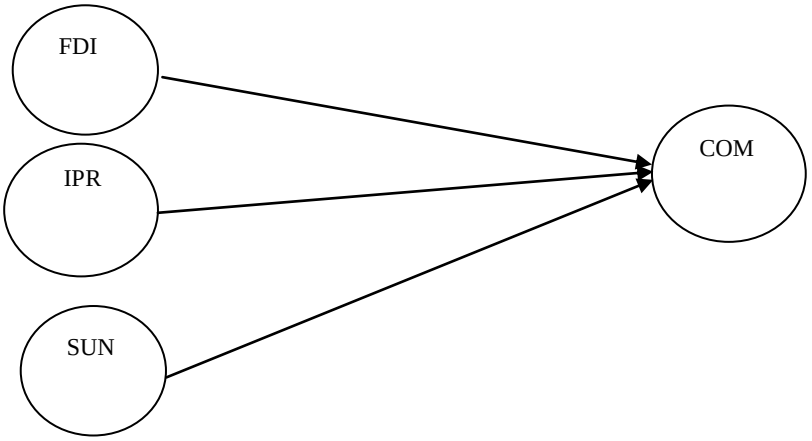

Figure 4. Emerged conceptual model.

The variable intellectual property rights payments (IPR) as a possible explanatory variable was introduced when it turned out that it was not possible to capture the impact of manufacturing or mining share in imports. The competitiveness of a sector in a given country can be determined by the number of patents, which in itself can be actively captured by the intellectual property right payments made by a government in order to maintain its structure of the economy or to diverge it to the desirable structure.

Table 6

Model Summary

Model	*R*	*R* square	Adjusted *R* square	Std. error of the estimate
1	0.979[a]	0.958	0.950	5.043

Note. Predictors: (Constant), FDI % GDP, structural unProblem, IPR payment.

Table 7

ANOVA[a]

Model		Sum of squares	df	Mean square	*F*	Sig.
1	Regression	9,744,962	3	3,248,321	127,746	0.000[b]
	Residual	432,276	17	25,428		
	Total	10,177,238	20			

Note. Dependent variable: Complaints by; Predictors: (Constant), FDI % GDP, structural unProblem, IPR payment.

Table 8

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients	*T*	Sig.
		B	Std. error	Beta		
1	(Constant)	5.924	1.875		3.160	0.006
	IPR payment	10916E-009	0.000	0.735	3.883	0.001
	structural unProblem	-0.323	0.148	-0.231	-2.189	0.043
	FDI % GDP	0.000	0.000	0.316	1.818	0.087

Note. Dependent variable: Complaints by.

Results

A strong weight for FDI and IPR can be observed; this indicates that having to use foreign knowledge and capital might deliver feelings of dependency and domestic protest. The link to the current account balance is also clear in the sense that as IPR is an outflow of money out of the national economy like FDI. It was expected that as the import share was strong, this could induce home bias. A counter effect is observed since the sign of the Beta weight is negative. Countries complain less when the heavily depend on agricultural import; it seems according to these results. The observed effect is not strong though. The effect of SUN is fairly weak but remarkable; it indicates that countries with high unemployment tend to complain less.

The preliminary study indicates that there is a possibility that trade complaints might also be misused to diminish the competitiveness of trading partners and thus point at a serious role of home bias. The two cases in the boxes in this text provide in hindsight clear examples. As to these examples, that point at home bias, can a trend be distilled in home bias induced complaining more than incidents shown this far? This research is based on the interpretation of two exploratory models, the first one being model 1: The three variables, current account balance, agricultural share in imports, and IPR payments are able to explain the 90% of the variation in the number of complaints of the WTO member countries.

The model 2, a result of stepwise regression analysis provides a model with three variables; FDI as a percentage of GDP, SUN, and IPR payments is able to explain 90% of the variation in the trade complaining number of the WTO member countries. This is not surprising. The current account balance effect CAB merges with FDI, being highly correlated with FDI. Our explorative study led to two models with a good fit; the second model, a result of stepwise regression analysis provides a model with three variables; FDI as a percentage of GDP, SUN, and IPR payments together are able to explain 90% of the variation in the trade complaining number of the WTO member countries. It shows that SUN problem does play a role which leads the countries to complain, rightly or not, at WTO.

Conclusions

The Pareto theorem states that free trade is the optimum way of maximizing the welfare of the trading countries. The distortion in terms of any tariff, any non-tariff or voluntary trade restriction would distort the mechanism leading to sub-optimum trade or disruptive trade. Our models give us the possibility to draw some tentative conclusions.

The first being, contrary to our hypothesis, that agricultural import share is negatively related to complaints: as the share grows, complaints diminish. A most interesting finding is that IPR payments are strong predictors of complaints, i.e., countries that complain have relatively high IPR payments. Since GDP pro capita, even in dummy coding was not significant, which means that IPR is not about relatively underdeveloped countries versus developed countries, as it might seem. There seems to be a relation to the outflow of capital since also FDI is a strong predictor of complaints. It seems that foreign dependency induces home bias, and that complaining is a strategy possibly used for other purposes than “objective complaining”. In the light of our hypothesis on home bias, the finding that the variable relating to the balance of payment account CAB is also negatively related to complaining in our first model is very interesting: it means that countries suffering from difficulties with the balance of payments complain more! This can be considered as strange since the treaties are on objective things such as safety of for instance an airplane. The fact that this variable together with IPR

and FDI explains part of the variance is a strong indicator that motives to file a complaint might be of a lesser objectivity being biased by home bias induced policy. The reason behind complaining is often an attempt to induce home bias because high foreign investment in IPR payments means dependency and probably domestic pressure against highly competitive foreign industries. A counter effect is the unemployment effect, and countries complain less if they face high unemployment.

The inclusion of the export share variable is not significant. It may be concluded that the complaints might be used as a weapon, intended to protect rather than to expand existing export possibilities. The inclusion of the trade export invalidated the model with its inclusion because the constant term in the equation was no longer significant and the model fit deteriorated. This might mean that complaints are related to the protection of domestic markets rather than opening up foreign markets and thus being in essence defensive strategies, rather than offensive.

The theoretical possibility of probable existence or an attempt of an induced home bias is an acceptable proposition, which can be partly explained by cross-country WTO data for the year of 2012 based on the interpretation of our exploratory models. The analysis in this paper points to a structural influence of home bias being more than just the two incidents (see Tables 1 and 2 on textiles and cucumbers) reported in this paper. Treaties are not only business like agreements between countries but are actually used in trade wars of which all know that in the long term it means that all lose. Regardless of this, home bias still seems to be one of the motives for filing complaints despite the Pareto wisdom, which we all can share.

Discussion

This paper is the first preliminary exploration of the correlation between the macro factors leading to complaint in international trade. The intention is to continue the research.

A country lodges a complaint because it perceives a barrier in the trade or a breach of trade treaty. It is only a respondent, or a country against which it is lodged knows whether it is a justifiable complaint. There is asymmetric information. The European Union is a second highest complainer after USA, and provides an interesting area to search on intra-regional barriers. In this paper, respondent's behaviour was excluded from the analysis. The respondents and the share of exports provide another opportunity to explore further the complaining behaviour of WTO countries. An analysis of time series with respect to the nature of complaints, with respect to the growing number of nations is one of many possibilities. The information about the trade barriers and the nature of complaints is a fascinating one. It shows that there are other motives for complaining behaviour other than objective facts violating treaty's. WTO member states are urged: let an international treaty do what it is supposed to do in case of real violation: regulating trade in a fair way; benefiting us all. Sticking to home bias induced policy frustrates free trade and diminishes the total welfare of nations in an unacceptable way.

References

Ben-David, D., & Papell, D. H. (1997). Papell international trade and structural change. *Journal of International Economics, 43,* 513-523.

Eriksson, C. (2006). *Home bias in preferencesand the political economics of agricultural protection*. Retrieved from http://www.mdh.se/polopoly_fs/1.8551!/Menu/general/column-content/attachment/2011_REAE-92-1-Eriksson.pdf

Ghazalian, P. L. (2012). Home bias in primary agricultural and processed food trade: Assessing the effects of national degree of uncertainty aversion. *Journal of Agricultural Economics, 63*(2), 265-290.

Holger, C. W. (2000). International home bias in trade. *The Review of Economics and Statistics, 82*(4), 555-563.

Huang, H. T., Ju, J. D., & Yue, V. Z. (2011). *Structural adjustments in production and international trade: Theory and evidence from China*. Retrieved from http://econ.la.psu.edu/papers/psu-tsinghua/Jiandong%20Ju%20-%20Structural%20Adjustments%20in%20Production%20and%20International%20Trade.pdf

Jansen, M., & Salazar-Xirinachs, J. M. (2012). *Assessing and addressing the effects of trade on employment*. Retrieved from http://www.ilo.org/employment/Whatwedo/Projects/WCMS_118053/lang--en/index.htm

Kee, H. L., & Hoon, H. T. (2004). *Trade, capital accumulation and structural unemployment: An empirical study of the Singapore economy*. Retrieved from http://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=2195&context=soe_research

Keen, M., & Kotsogiannis, C. (2012). IMF working paper fiscal affairs department coordinating climate and trade policies: Pareto efficiency and the role of border tax adjustments. IMF WP/12/289.

Kee, H. L., & Hoon, H. T. (2004) Trade, capital accumulation and structural unemployment: An empirical study of the Singapore economy. Policy Research Working Paper Series 3272, The World Bank.

Manning, C., & Aswicahyono, H. (2012). *Trade and employment in services: Employment sector*. Retrieved from http://www.ilo.org/employment/areas/trade-and-employment/lang--en/index.htm

Appendix A

Data sets

(1) The first set of data one is about: 99 countries which have been either lodged complaint or have a third party role. This data set includes EU, Chinese Teipei, and Chinese Hong Kong.

(2) A second set of data includes EU, a sample of all the WTO complainants and plaintiff is taken that counts to 64 countries which have lodged complaints. The EU needed to be omitted because there are no figures at EU level for all the variables except GDP and other macro variables. These 64 countries are further divided into according to their status of economic development indicated by GDPPC, low income countries which have income 10,000 GDPPC; middle income countries with income more than 10,000 but less than 40,000, and high income countries above 40,000 GDPPC in 2012 (There are 27 countries in low income countries, 23 middle income countries, and 14 high income countries).

(3) A third sample is a small sample of 28 countries those who have been complaining and are also complained against. This sample includes a diversified range of countries in terms of gross domestic product per capita GDPPC and other indicators. This set of countries is correlated with various other macro variables, an overview is provided in the table beneath.

Table A1
Data Sets

Set of data	Sample size
Data set 1: All the countries, complainant, respondent or as a third party, includes the EU	99
Data set 2: Complainant or plaintiff and defendant or respondent	64: divided into low 27, middle 24, and high 14 income countries
Data set 3: Complainant and defendant	28

World Bank data and their definitions: Employment in agriculture (% of total employment); Employees are people who work for a public or private employer and receive remuneration in wages, salary, commission, tips, piece rates, or pay in kind. Agriculture includes hunting, forestry, and fishing.

Employment in industry (% of total employment): Employees are people who work for a public or private employer and receive remuneration in wages, salary, commission, tips, piece rates, or pay in kind. It includes mining and quarrying (including oil production), manufacturing, construction, and public utilities (electricity, gas, and water).

Unemployment refers to the share of the labour force that is without work but available for and seeking employment. Definitions of labour force and unemployment differ by country and the data is used as it is reproduced in the World Bank.

Table A2
The Observed Significant Correlations

Data set 1	Variable	Pearson correlation
99 no of countries respondent/Complainant/Third party	Agr M share	-0.294**
	Sig. (2-tailed)	(0.003)
57 LDC out of the data set 1	Mfg X share	0.344**
		(0.009)
	Agr M share	-0.423**
		(0.001)
	mining M share	0.299*
		(0.024)
Data set 2	**Variable**	**Pearson correlation**
64 countries either complainant or respondent	Agr M share	-0.283**
	Sig. (2-tailed)	(0.023)
27 LDCs out of data set 2	Agr M share	-0.543**
	Sig. (2-tailed)	(0.003)
Data set 3	**Variable**	**Pearson correlation**
28 complainant and respondents Sig. (2-tailed)	HDI	0.459*
		(0.014)
	Current account balance	-0.621**
		(0.001)
	FDI as a % GDP	0.848**
		(1.2063)
	IPR payments	0.866**
		(2.23)
	IPR receipts	0.925**
		(5.21)
	Property rights	0.458*
		0.014)
	Freedom from corruption	0.418*
		(0.027)
	GDPPC	0.660**
		(0.00013)

Table A3
The Trade Agreements and Number of Lodged Complaints Until 2012

Agreement	Complaints lodged until 2012
Agreement Establishing the World Trade Organization	
Agriculture	71
Anti-dumping (Article VI of GATT 1994)	95
Civil Aircraft	0
Customs valuation (Article VII of GATT 1994)	15
Dispute Settlement Understanding	15
GATT 1947	1
GATT 1994	366
Government Procurement	4
Import Licensing	39
Intellectual Property (TRIPS)	32
Preshipment Inspection	0
Rules of Origin	7
Safeguards	43
Sanitary and Phytosanitary Measures (SPS)	40
Services (GATS)	23
Subsidies and Countervailing Measures	97
Technical Barriers to Trade (TBT)	45
Textiles and Clothing	16
Trade-Related Investment Measures (TRIMs)	35
Protocol of Accession	32

Table A4

Year Wise Overview of the Lodged Complaints

Year	No. of complaints
1995	26
1996	39
1997	50
1998	41
1999	30
2000	34
2001	23
2002	37
2003	26
2004	19
2005	12
2006	20
2007	13
2008	19
2009	14
2010	17
2011	8
2012	27

Table A5

Country Wise Overview of the Lodged Complaints

Country name	Complaints	Respondent	GDP per capita
Argentina	18	22	17,516
Australia	7	13	40,234
Bahrain, Kingdom of	1	0	27,556
Brazil	26	14	27,556
Canada	33	17	40,541
Chile	10	13	17,222
China	11	30	8,382
Colombia	5	3	10,249
Costa Rica	5	0	11,927
Czech Republic	1	2	27,062
Dominican Republic	1	7	9,287
Ecuador	3	3	8,492
Guatemala	8	2	5,070
Honduras	8	0	4,345
Hong Kong, China	1	0	49,137
Hungary	5	2	19,591
Iceland	0	0	38,061
India	21	22	3,694
Indonesia	6	5	4,666
Japan	17	15	34,740
Republic of Korea	15	14	
Malaysia	1	1	15,568
Mexico	23	14	14,610

(Table A5 continued)

Country Name	Complaints	Respondent	GDP per capita
Republic of Moldova	1	1	3,373
New Zealand	7	0	27,668
Nicaragua	1	2	3,206
Norway	4	0	53,471
Pakistan	3	2	2,787
Panama	6	1	14,097
Poland	3	1	20,334
Singapore	1	0	59,711
Sri Lanka	1	0	5,674
Switzerland	4	0	43,370
Chinese Taipei	3	0	37,720
Thailand	13	3	9,396
Turkey	2	9	14,517
Ukraine	3	1	7,233
UnIted States	105	119	48,387
Uruguay	1	1	15,113
Venezuela, Bolivarian Republic of	1	2	12,568
Vietnam	1	0	3,359

Table A6

An Example of the Summary of the Dispute Case at the WTO

Short title:	
Complainant:	United States
Respondent:	Republic of Korea
Third Parties:	
Agreements cited: (as cited in request for consultations)	Agriculture: Art. 4 GATT 1994: Art. III, XI Sanitary and Phytosanitary Measures (SPS): Art. 2, 5 Technical Barriers to Trade (TBT): Art. 2
Request for Consultations received:	3 May 1995
Mutually Agreed Solution notified:	20 July 1995

Summary of the dispute to date

The summary below was up-to-date at 24 February 2010.

Consultations

Complaint by the United States.

On 3 May 1995, the US requested consultations with Korea in respect of requirements imposed by Korea on imports from the US which had the effect of restricting imports. The US alleged violations of Articles III and XI of GATT, Articles 2 and 5 of the SPS Agreement, Article 2 of the TBT Agreement, and Article 4 of the Agreement on Agriculture.

Mutually agreed solution

The parties notified a mutually acceptable solution to this dispute on 20 July 1995.