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The Political Economy of
INTERNATIONAL TRADE NEGOTIATIONS

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Chapter 1

Introduction

This book is about a splendid idea whose putting into practice continues to pose grave problems. Neither the idea nor the problems associated with its realization are brand new. To illustrate it, I should like to invoke an *immense discovery* made by the witty French economist Fréderic Bastiat some 160 years ago:

> *At a time when everyone is trying to find a way of reducing the costs of transportation; when, in order to realize these economies, highways are being graded, rivers are being canalized, steamboats are being improved, and Paris is being connected with all our frontiers by a network of railroads and by atmospheric, hydraulic, pneumatic, electric, and other traction systems; when, in short, I believe that everyone is zealously and sincerely seeking to reduce as much as possible the difference between the prices of commodities in the places where they are produced and their prices in the places where they are consumed; I should consider myself failing in my duty toward my country if I any longer kept secret the wonderful discovery I have just made. It requires neither plans nor estimates nor preparatory studies nor engineers nor mechanics nor contractors nor capital nor stockholders nor government aid! It presents no danger of shipwreck, explosion, collision, fire, or derailment! It can be put into effect in a single day! Finally, and this will doubtless recommend it to the public, it will not add a centime to the budget; quite the contrary. It was not chance, but observation, that put me in possession of my discovery. I had this question to resolve: "Why should a thing made in Brussels cost more when it reaches Paris?" Now, it did not take me long to perceive that the rise in price results from the existence of obstacles of several kinds between Paris and Brussels. First of all, there is the distance; we cannot traverse it without effort or loss of time, and we must either submit to this ourselves or pay someone else to submit to it. Then come rivers, marshes, irregularities of terrain, and mud; these are just so many more impediments to overcome. We succeed in doing so by raising causeways, by building bridges, by laying and paving roads, by laying steel rails, etc. But all this costs money, and the commodity transported must bear its share of the expenses. There are, besides, highway robbers, necessitating a constabulary, a police force, etc. Now, among these obstacles between Brussels and Paris there is one that we ourselves have set up, and at great cost. There are men lying in wait along the whole length of the frontier, armed to the teeth and charged with the task of putting difficulties in the way of transporting goods from one country to the other. They are called customs officials. They act in exactly the same way as the mud and the ruts. They delay and impede commerce; they contribute to the difference that we have noted between the price paid by the consumer and the price received by the producer, a difference that it is our problem to reduce as much as possible. And herein lies the solution of the problem: Reduce the tariff.* [Bastiat 1845, 13]

The discovery has by no means become obsolete. Reducing government-imposed trade barriers continues to be a worthwhile project that, even in our current era of globalization, holds out enormous welfare gains for the world as a whole and particularly its poorer parts.

Indeed, the idea has recently been rediscovered by a panel of 55 renown economists from all disciplines and backgrounds, among them five nobel laureates, that convened in Copenhagen in May 2008 to tackle a daunting but very important task. Namely to identify the most pressing global problems and to prioritize their possible solutions. In particular, the experts' assignment was to allocate a fictive amount of $ 75 billion such as to "make the world a better place". To this end, sound cost-benefit calculations were carried out so as to identify the most efficient ways to arrive at compassionate solutions. In the run-up to the conference, a list of ten global challenges was agreed on which included *global warming*, *communicable diseases*, *conflicts and civil wars*, *lack of education*, *poor governance and corruption*, *hunger and malnutrition*, *women and development*, *air pollution*, *water and sanitation* as well as *trade barriers and subsidies*.

Each of these challenges received the advocacy of an expert in the field that would numeralize the benefits and costs of alternative ways to meet the respective challenge and would make the case for giving priority to his or her problem of expertise and heart. The ultimate aim of the project was to reach consensus about the urgency and the financial commitments with which to address these global challenges.Despite the diversity of their backgrounds and philosophies, the panel members reached a remarkable degree of accord on the order and intensity that the problems should be dealt with so as to maximize global net benefits. The resultant list of prioritised options is known as the "Copenhagen Consensus". Only behind *alleviating malnutrition and hunger,* the ultimate ranking identifies *reducing trade barriers and subsidies* as second place in terms of the benefit-cost-ratio. As it does not require large monetary investments, as it would benefit rich and poor countries alike and as it would entail greater prosperity, addressing the world's number two problem would imply that there will be more resources to devote to other issues.

The "immense discovery" could thus serve as a catalyst for meeting other challenges. While provision of micronutrients containing vitamin A and zink is the preferred remedy against the number one problem, the Copenhagen Consensus views advancing the WTO's Doha agenda as the best cure for the problem ranked second.[1]

However, as up to date as the splendid idea itself are the difficulties associated with putting it into practice. Only three months after the nomination of the Doha agenda as second most worthwhile project, the WTO negotiations were suspended in disagreement for the umpteenth time. Started in November 2001, they had been scheduled to finish by January 2005. Apparently, governments find it extremely difficult to follow Bastiat's simple and ingenious advice – despite the negligible monetary costs. Basically, the reasons for that difficulty are very similar these days, too. Already Adam Smith noted that

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[1]   The scholarly debates leading to the Copenhagen Consensus 2004, when a very similar process was carried out for the first time, are reproduced in Blomberg (2004). The main results are summarized in Blomberg (2006). The debate that lead to the updated Consensus is not yet available in print. The project's website can be retrieved at www.copenhagenconsensus.com.

"people of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public" [Smith 1776, Vol. I, Chapt. X]

– an observation that is still at the heart of the reasons why liberalizing trade seems so difficult nowadays. Seldom are trade policy decisions taken with a view to *Salus Publica*. More often than not are such decisions influenced by people of the *same or similar trades* that tacitly conspire against the public. Once again, Bastiat can be resorted to for an explanation as to why bringing his discovery to fruition is so toilsome: attempts to do so tend to immediately provoke resistance such as the Petition

From the Manufacturers of Candles, Tapers, Lanterns, Candlesticks, Street Lamps, Snuffers, and Extinguishers, and from the Producers of Tallow, Oil, Resin, Alcohol, and Generally of Everything Connected with Lighting

To the Honorable Members of the Chamber of Deputies.

Gentlemen!

we are suffering from the ruinous competition of a foreign rival who apparently works under conditions so far superior to our own for the production of light that he is flooding the domestic market with it at an incredibly low price; for the moment he appears, our sales cease, all the consumers turn to him, and a branch of French industry whose ramifications are innumerable is all at once reduced to complete stagnation. This rival, which is none other than the sun, is waging war on us so mercilessly that we suspect he is being stirred up against us by perfidious Albion, particularly because he has for that haughty island a respect that he does not show for us. We ask you to be so good as to pass a law requiring the closing of all windows, dormers, skylights, inside and outside shutters, curtains, casements, bull's-eyes, deadlights, and blinds – in short, all openings, holes, chinks, and fissures through which the light of the sun is wont to enter houses, to the detriment of the fair industries with which, we are proud to say, we have endowed the country, a country that cannot, without betraying ingratitude, abandon us today to so unequal a combat. Be good enough, honorable deputies, to take our request seriously, and do not reject it without at least hearing the reasons that we have to advance in its support. First, if you shut off as much as possible all access to natural light, and thereby create a need for artificial light, what industry in France will not ultimately be encouraged? If France consumes more tallow, there will have to be more cattle and sheep, and, consequently, we shall see an increase in cleared fields, meat, wool, leather, and especially manure, the basis of all agricultural wealth. If France consumes more oil, we shall see an expansion in the cultivation of the poppy, the olive, and rapeseed. These rich yet soil-exhausting plants will come at just the right time to enable us to put to profitable use the increased fertility that the breeding of cattle will impart to the land. Our moors will be covered with resinous trees. Numerous swarms of bees will gather from our mountains the perfumed treasures that today waste their fragrance, like the flowers from which they emanate. Thus, there is not one branch of agriculture that would not undergo a great expansion (...)   [Bastiat 1845, 13]

The chief problem about exploiting the immense discovery consists in overcoming the resistance of groups that have a vested interest in its oblivion. Among the factors that make

for the difficulties associated with liberalizing trade in general and with advancing the Doha agenda in particular, modern contemporaries of the candlemakers ridiculed here rank high. These tend to find a host of arguments why the discovery be tried another day or – even better – not at all. And, more often than not, these arguments tend to encounter sympathetic ears on governments' side.

From an economic perspective, the problems that motivate governments to meet and engage in endless negotiations about doing what they should be doing in their own countries' best interest is hard, if not impossible, to grasp. It is no less puzzling than 160 years ago that governments are evidently willing to block up their countries' harbours with artificial concrete walls on the grounds that other countries have rocky coasts. It is as peculiar as then, that the same governments would engage in lengthy negotiations with other governments and signal willingness to unblock their harbors if other governments promise to do something about the accessibility of theirs. It is as curious as then that governments would only tear down their artificial walls upon suspicious and jealous inspection that their negotiating partners honor their obligations and that they would threaten to build the walls up again in the event that obligations are not met. To make any sense of these peculiarities, a *political economy* perspective must be assumed. Hence the title of this book.

As matters stand, at least from an economic point of view, as regards the virtue of trade liberalization we do not have a *cognition* but an *implementation* problem.[2] To make things worse, we have only *partial cognition of the implementation problem*. That is to say, we do not fully understand wherein the problem lies that governments are out to solve when they meet again and again, over the course of several years in Geneva and around the globe, and we do not fully understand what prevents them from simply implementing welfare enhancing trade policy reform on their own. On top of that, we know even less about *possible solutions to the implementation* problem but are confronted with a great many, mostly contradictory, proposals.

Is the current trend toward regional integration to be greeted with a smile or with a frown? Is reducing the agenda likely to alleviate or aggravate the implementation problem? Is flexibility regarding governments' assumed obligations, such as embodied in the concept of special and differential treatment, more likely to facilitate or to complicate implementation of the discovery?

Inherent to this plurality of diverse, mostly mutually incompatible, proposals as regards solutions to the implementation problem is the danger that we lose sight of what we know for sure. Namely the unqualified superiority of trade liberalization. Particularly among non experts of trade theory, the hard to overlook variety of proposals and often fierce debates about how to solve the implementation problem tends to obscure the splendor of the original discovery. Ambiguities pertaining to the means risk distraction from the unambiguity of the end. An inventorizing and clarifying excercise seems worthwhile.

This dissertation seeks to delve deeper into the theories that may explain what actually seems to hinder governments around the world from simply making use of the splendid discovery. Ultimately, the aim would be to identify some *adjustment screws* that may be turned

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[2] This wording is borrowed from German chancellor Merkel who thus described the need for social security reform in Germany.

so that the candlemakers' supremacy will eventually fade and trade negotiations will work more smoothly. Searching for such *blockade solvers* and scrutinizing their compatibility with governments' motives and incentives may serve to identify viable ways forward on the road toward freer trade.

Yet, given that the prevalence of protection can only sensibly explained with recourse to political economy, such *road pavers* must duly appreciate the political economy constraints within which trade negotiations take place and the incentives governments face. Unless these are properly understood and duly taken into account, reputive road pavers would amount to putting new coating on dead end streets – negotiation deadlock would only be reached faster. Road pavers must thus be considered from a political economy angle.

The project thus serves a dual purpose: The *first goal* would be to take stock of, where appropriate add to, and finally bring together under one umbrella the various theoretical explanations for the difficulties of implementing trade liberalization. Thus, a refined and comprehensive picture of the nature of the dilemmas that governments apparently find themselves in could be drawn. This would amount to furthering the understanding of the problem and would be conducive to a *clarification* of the debate over means. Indirectly, this would also reduce the risk that the end escapes sight. The *second goal* would be to build on the refined picture and *contribute* to the debate over means and identify promising ways forward.

The book is organized as follows:

Chapter 2 justifies the intellectual quest and illustrates why trade negotiations are an issue at all. While both globalization's critics and enthusiasts are united in their assessment that the current extent to which economies are integrated is unprecedented, looking at the degrees of openness necessitates a qualification of the uniqueness of contemporary states of trade integration. Even if this qualification is accepted, the integration of world markets, i.e. mobility of goods, services and factors of production still seems remarkable. At the same time, trade negotiations tend to take ever longer. This prompts the question whether the gains from liberalization (and those from negotiating about it) are subject to diminishing returns. Given that trade barriers are at historically low levels, should political capital (and academic effort) not better be invested in activities that provide higher returns? Thence **chapter 2** inventories existing trade barriers, assesses their welfare costs and subsequently gauges the benefits that are still to be had. This reveals substantial opportunity costs of not negotiating – and not liberalizing. Both from an efficiency and an equity angle, the stakes are high. Thinking about how to bring about further liberalization is found to be not merely an intellectual exercise but also economically warranted. Hence, the mission is not aborted but continued with **chapter 3.**

This lays the theoretical foundation and is a core part of the thesis. It seeks to collect under one umbrella existing theoretical explanations and enriches these with own conjectures, contemplations, modelling excercises and cliometric excursions. All this to answer three questions:

(1) *why does the political process usually favor protectionist interests*?

(2) *under which circumstances may this general rule temporarily be suspended*?

(3) *what purpose do trade agreements, which apparently are what governments strive at when they meet to negotiate, fulfill*?

The first question describes the well established research program of endogenous protection and is addressed in **section 3.1.** Answering the second requires a more extended collection tour through the branches of political economy as the theory of endogenous liberalization is comparatively underdeveloped. Nevertheless, **section 3.2.** identifies factors that may induce the suspension of the general rule. These are mirrored against a historic precedent of endogenous liberalization from Victorian England: in the Repeal of the Corn Laws, almost all of the identified factors can be traced. **Section 3.3.** seeks to answer the third question. This is the most difficult of the three since existing theoretical contributions offer contradictory explanations and work within quite different analytical frames. To collect all possibly relevant rationales for trade agreements, an even longer tour along the pedigree of economic subdisciplines is required. Upon return from that tour, I shall offer an addtional explanation that differentiates distinct purposes of trade negotiations and agreements. Finally, the section addresses *reciprocity*, a prominent feature of trade agreements and negotiations, which is particularly difficult to rationalize in theoretical terms. However, borrowing from evolutionary economics, a remote kin in the family of economic disciplines, I shall present some arguments as to why the principle of reciprocity is more than an atavist remnant of mercantilism. In fact, to the extent that the benefits of trade agreements have public goods characteristics – another issue addressed in section 3.3. – this principle fulfills an important function and deserves better than being contemptuously called "diplomats' economics".

Chapter three is rather voluminous. However, a broad theoretical basis that takes into account as many conceivable answers to questions (1) – (3) as possible is prerequisite to identifying the right insertion points for road pavers toward smoother negotiations and more liberal outcomes. A thorough apprehension of governments' incentives and motives is necessary if measures are to be viable and incentive compatible.

To compensate, **chapter four** is much shorter and constitutes the link between the two purposes outlined above. Its first section provides an overview of the several tracks that can be followed toward liberal trade policies. Its second section introduces the two-level-game metaphor that brings into focus the domestic-international entanglements which characterize trade negotiations. While the different tracks will only occasionally be referred to where they seem relevant, the two-level-game metaphor will have formative influence on the following chapters and sections. This is because that lense lends itself to studying the trade liberalization problem from two diverse but interrelated perspectives, namely the domestic and the international one. Potential road pavers to facilitate the transition to free trade can be found on both the domestic and the international game boards. The two subsequent chapters will thus pick up this dichotomy and discuss a number of strategic levers that may be deployed on each level. As it will turn out, and as the two-level game metaphor predicts, the dichotomy must not be confused with impermeability: at times, potentially sensible domestic policies may appear less sensible when the international dimension is taken into account and vice versa.

While the academic approach in the first four chapters mostly involved hunting and gathering and extensive rambles through the terrain of economic theory to the end of collecting bits and pieces that may serve as building blocks for comprehensive answers to questions (1) to (3), I now eventually become sedentary and engage in some husbandry of my own.

In accordance with the permeable dichotomy between the domestic and international games played by governments involved in trade negotiations, **Chapter 5** discusses potential road pavers that may work on the domestic gameboard. These include the strategies of *transparency*, *delegation* and *compensation*.

By the *transparency* strategy, discussed in **section 5.1.,** I understand measures that are directed at increasing public awareness about the costliness of trade protection and about alternative ways to reach policies' official aims at lower costs. The basic mechanism amounts to the "Dracula effect"[3] according to which the mere act of recognizing bad trade policies triggers corrective responses – just as exposing evil to sunlight helps to destroy it. This section starts out with a general discussion of how this strategy is supposed to work, followed by a model-based analysis of the circumstances under which governments may find it worthwhile to lift some fog they before had found optimal to create. Finally, a case study serves to illustrate this strategy's potential effectiveness and to make some inferences as to its general applicability. This case study relates to Australia, where transparency has been instrumental to converting an outspokenly protectionist to one of the most open and outward-oriented OECD countries.

The *delegation* strategy discussed in **section 5.2.** consists in transferring trade policy competence to an agent that is more detached from the political process. With the clear parallel to be found in the realm of central banking, in trade policy, such delegation of competence may solve problems that are related to industries' regional concentration and the resultant effects on political clout. The appraisal of that strategy starts with an illustration of its general mechanism, followed by a short tour of existing theoretical models of how it may function and a more extended case study that pertains to the United States. There, the delegation strategy has arguably been put to good use in the aftermath of the Great Depression.

To complete the trilogy of domestic strategies, **section 5.3.** discusses *compensation* which involves transfers from the prospective gainers to the prospective losers from liberalization. This almost ancient proposal is studied in greatest depth. A survey of general problems of this strategy is followed by the confrontation of two existing theoretical accounts of it that deliver contradictory recommendations. Finally, with explicit reference to the two-level-game metaphor, I shall present an own theoretical argument. Pointing to additional incentive constraints, this brings to the fore additional aspects to the disfavor of the compensation strategy.

In **chapter 6**, gameboards are switched and the arsenal is replenished with strategies that primarily work on the international level. These include *issue linkage*, *formula based negotiation techniques* and *compensation between* – rather than within – *countries*.

The prelude to trade negotiations is the equally important excercise of setting the agenda. This determines the applicability of issue-linkage, a well-honed technique of international negotiations whose merits and demerits are canvassed in **section 6.1.** If wisely done, forging linkages between issues enhances cooperation and widens the realm of mutual benefit. By contrast, unlucky linkages have the opposite effect and decrease the prospects for cooperation. As regards the decisive question, what makes for a lucky linkage?, some inferences are made. The discussion of the strategy's general mechanism is followed by a case study from the Uruguay Round. There, the linkage strategy was intensively used in its most drastic form,

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[3]   This term is borrowed from Bhagwati (1988, 85).

the so-called Single Undertaking. Meanwhile, this arrangement is by many seen as a too rigid and too drastic application of the strategy and held responsible for protracted negotiation deadlocks. Critics favor the variable geometry concept, a more flexible approach that implies weaker linkage between issues. This debate, whose outcome seems crucial to the fate of the Doha agenda if not the development of the multilateral trading system, is hitherto remarkably atheoretic. Therefore, I engage in game theory-inspired contemplations as to the ideal intensity of linkage and present an alternative negotiation structure. This would seek to combine the benefits and preclude the costs of the either too rigid or too flexible arrangements that dominate the discussion.

Agenda setting concluded, **section 6.2.** deals with the negotiation process proper and focuses the strategy of applying formula-based negotiation techniques. Compared to traditional request-offer procedures, such are deemed advantageous insofar as they reduce governments' discretion and make it more difficult for politically influential industries to receive special treatment. However, formula approaches entail problems of their own. The devil hides in the details and is well-disposed to act on behalf of special interests. The general discussion of the strategy is followed by case studies from the most recent Doha Round negotiations. From these, inferences regarding the strategies' applicability to and aptitude for different issue areas are made.

Completing the trilogy of strategic levers employable in the international game, the compensation approach reappears in **section 6.3.** Albeit this time with countries instead of firms or individuals as benficiaries and financiers. Unlike the preceeding chapters and sections, the disquisition of "compensation gone international" occurs with the narrative plot reversed: a delineation of the still cloudy concept of "Aid-for-Trade", a concrete proposal circulating in the current debate, precedes the general estimation of functions that this concept may fulfil. The motivation for going from concrete to general is twofold: As a practical matter, there exists to date practically no theoretical work that could be consulted as regards the generic operation of this strategic lever. While the well-tilled field of aid-versus/and-trade from development economics allows some inferences, it fails to take into account the *sui generis* nature of the ideated transfers. Second, as a matter of literary exposition, this sequence allows me to bend the bow to the preceeding chapters and sections. Making virtue out of necessity, a confrontation of the Aid-for-Trade proposal with intuitions gained earlier takes the venture back full circle.

Finally, **chapter 7** pools insights.

The mission can thus be stated two ways:

Narrowly and somewhat presumptuously defined, the mission is to identify road pavers for liberalization, test their aptitude and thus seek effective remedies for the implementation problem. This would be tantamount to seeking to contribute to solving the second most important global challenge.

More broadly and more modestly defined, the mission is to bring some clarity into the debate by collecting and assembling the plethora of differing explanations and interpretations about what prevents governments from following the splendid idea, about what motivates them to engage in trade negotiations and to what ends they seek trade agreements. With these motivatations well understood, some conceivable solutions may be surveyed so as to

make inferences about their viability and mutual compatibilty. This would be equipollent to furthering the understanding of wherein the implementation problem really lies.

Before starting off, it seems useful to briefly sketch the research gaps and pinpoint where this dissertation contributes to closing them. In answering the questions (1)-(3) above, as well as in seeking and analyzing potential road pavers for more fruitful trade negotiations, a number of theoretic tesserae can be built on. Yet, to complete the mosaic, some must be reassembled and some spaces be filled. Most of the tesserae belong to one of three classes:

A full-grown *theory of endogenous protection* provides explanations why trade is not so free as would be the economicst's prescription. These theories have seen a convergence to the Grossman and Helpman (1994) model.

An adolescent political economy *theory of trade agreements* presents a bunch of motivations why governments seek these and negotiate to that end. However, a consensus is not in sight as the proponents of the leading models – Ethier (2004) and Bagwell/Staiger (2002) – deny each others' approaches any relevance.

Compared with its two elder relatives, the *theory of endogenous trade liberalization* is in a state of infancy. In fact, upon a closer look, kinship appears to be only remote. The manifest idea, that a simple inversion of arguments should suffice, turns out to be a sophism.

To the first class of theories, this dissertation has nothing to add. Yet, these are not leapfrogged as principal insights from there serve as building blocks for my own ideas. To the second class of theories, a modest contribution consists in collecting the circulating modelling approaches, contrasting their implications and checking their mutual compatibility. Moreover, some new explanations for some of the peculiarities of trade negotiations and agreements are provided. However, in that it explores ways to shift political equilibria so as to produce more liberal outcomes, this book's major contribution is to the benefit of the most indigent of the triplets, i.e. the third class of theories.

While none of the strategies applicable on the domestic or international level are a genuine idea of mine, the corresponding analyses produce some new insights: Starting at the domestic level, the *transparency* strategy has never been fully spelled out let alone been analyzed in a systematic way. By contrast, the *compensation* strategy has been known since long and also been addressed in political economy models, but its strategic dimension has so far been overlooked. Similarly, the *delegation* strategy has a long tradition in the realm of monetary policy, but has to date only hesitantly been applied to the trade field. While not coming up with new modelling attempts, this dissertation makes some new inferences from the existing ones. Turning to the strategies applicable on the international level, the *linkage strategy* has the longest tradition. Again, the value added consists in thoroughly compiling existing modelling approaches, gauging their relevance for trade negotiations as well as in deriving their implications for the design of a promising negotiation structure. Moreover, the remarkably understudied issue about the ideal linkage intensity is picked up and the informal debate about the Single Undertaking is cast in more analytical terms. By contrast, the part on *formula based negotiations* mostly involves echoing others' arguments about the usefulness of such a negotiation approach and its aptitude for the various areas as well as tracing the record of that strategy in the Doha Round negotiations. Beyond the merit of accountancy – neither an inventory of arguments nor a detailed record of events existed before – there is

comparatively little value added to claim credit for. More of that is contained in the analysis of the *Aid-for-Trade strategy*. With no theoretical work done yet, the contemplations offered there start from scratch and build on the insights developed over the course of the preceeding sections.

In short: rather than offering old wine in new bottles, this book seeks to offer some new wine in old bottles. Moreover, while not all the wine is new, the assortment of the bottles is. A la santé!

Chapter 2

Gauging The Stakes of Multilateral Trade Negotiations

In a world of scarcity, why should precious time and ressources be allocated to the examination of the political processes aiming at multilateral trade liberalization ?

A glimpse at Figure 2.1 may let this appear outright superfluous. After all, trade has been on the rise for decades. The share of world production that is traded across borders has grown continuously, a trend that made "Globalization" – the catch-all term for the movement toward more inclusive trading networks – the buzzword of our times and may well be expected to last.

Figure 2.1: Global exports of goods and services as a share of world GDP. Source: World Development Indicators 2007.

Meanwhile, globalization's skeptics deem it the culprit for various unfavourable developments, such as the rising wage inequality in the US or – the flip side of the coin in the presence of inflexible labor markets – persistent high unemployment among low-skilled workers in Europe (Wood 1995) as well as the perceived increased job insecurity and the alleged incapability of states to fulfill the redistributive and allocative tasks assigned to them (Sinn 1998). The notion that the rising tide of globalization has meant growing economic insecurity and likely necessitates governments to cut back on their spending to shelter against this felt insecurity in the face of fierce international competition and a mobilized tax base has become almost conventional wisdom (e.g. Iversen/Cusack 2000).

Some of these reservations against ostensibly tight integration have even been endorsed by economists and the question "*has globalization gone too far?*" – title to a much discussed book by Rodrik (1997) – would be answered in the affirmative by a substantial part of the general public in OECD countries. Scholarly research examining public opinion on the trade issue has concluded that a substantial proportion of voters in the United States and in other western economies may favor new trade restrictions, see e.g. Scheve and Slaughter (2004) or Mayda and Rodrik (2005).

Among the economists' guild however, the general rule that asking two professionals yields at least three conflicting opinions (all of which can be expected to be valid under the specific assumptions) does not hold for the question of economic integration:

The idea that restrictions on trade flows are generally welfare reducing and should best be done away with is one of the most unequivocally accepted propositions among economists (Frey et al. 1984, 988). It took nobel laureate Paul Samuelson some thirty years to provide a satisfactory response when asked by mathematician Stanislav Ulum to name one proposition from social sciences that is both true and non-trivial. The compelling argument was the Ricardian theory of "comparative advantage", i.e. the demonstration that trade is mutually beneficial even when one country is absolutely more (or less) productive in terms of each and every commodity.[1]

> "*That it* [the theorem] *is true need not be argued before a mathematician; that it is non-trivial is attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them.*" [Samuelson 1969, 9]

Established by Ricardo (1817) the theorem states that specialization based on *comparative* advantage and subsequent trade is beneficial for the world as a whole as well as any country involved, that is even for a country that is absolutely disadvantaged at producing any of the tradable goods. Thus, Adam Smith' doctrine of specialisation according *absolute* advantage

> "*If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry employed in a way in which we have some advantage*"

which rests on the observations that

> "*a taylor does not attempt to make his own shoes, but buys them of the shoemaker. The shoemaker does not attempt to make his own cloaths, but employs a taylor. The farmer attempts to make neither the one nor the other, but employs those different artificers (....)*

and that

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[1]   In 2004, the same Samuelson published a well received paper which was perceived as an elder's scepticism and sparked the so-called Samuelson-Bhagwati controversy. Notably, the older Samuelson's argument does not qualify Ricardo's basic proposition. It only points out to the (never disputed) theoretical possibility that trade would not be mutually beneficial – in which case it would not occur either. The controversy (see Samuelson (2004) and Bhagwati, Panagariya, and Srinivasan (2004)) thus basically boils down to hot air and does not distract from, let alone contradict, the younger Samuelson's case.

> "*What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom*" [Smith 1776, Book IV, Chapt. II]

was extended and an additional rationale for the welfare enhancing properties of unimpeded international trade discovered. However, while the concept of comparative advantage is so basic to economic analysis of international trade and economic thought in general and its theoretical validity remains largely undisputed, the consequences of its application are viewed controversially: Beyond criticizing the distributional effects of trade induced by comparative advantage (stemming from differences in factor proportions) that were first illustrated by Stolper and Samuelson (1941) and Rybczinski (1955), some commentators – notably from an economics background – even question the concept's applicability to the current patterns of globalization: alleging that international mobility of the factors of production undermines comparative advantage, Schumer and Roberts (2004) deny that there are gains from trade to be had if factors can relocate to wherever they are most productive.[2] As they see it, some countries would inevitably lose. Evidently, also some economists fail to truly grasp the concept and its implications – despite Haberler's (1930) demonstration that it also applies to individuals. Hence, appraising the stakes of multilateral trade negotiations requires recapitulating on the sources of the gains from trade. Causes of comparative advantage as well as newer theoretical explanations for the accelerated growth of trade merit some discussion.

2.1 Sources of Gain: A brief compendium

2.1.1 Traditional theories based on differing productivities and factor endowments

The illustration below depicts transformation curves (TRC) in a Ricardian world that is characterized by two goods, two countries and one factor of production, namely labor.
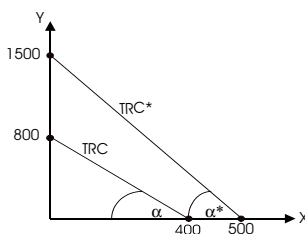
Figure 2.2: Transformation curves in a Ricardian World.

These curves indicate the production (and consumption) possibilities of both countries: If all production capacity were allocated to producing good X (Y), Home would be able to produce and consume 400 (800) units. Accordingly, if Foreign (denoted by *) were to al-

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locate all its production capacity to producing good X (Y), its consumption (=production) would amount to 500 (1500) units. Production can be split, however, allowing each country to realize any allocation on its transformation curve. Different relative advantages show up in the slopes of the transformation curves which ($tan\alpha = -2$; $tan\alpha = -3$) moreover indicate the opportunity costs of producing good X in terms of good Y. As the model assumes full employment of factors, any expansion of good X production involves a contraction in production of good Y. Evidently, Foreign has an absolute advantage in the production of both goods, its comparative advantage, however, lies in the production of Y whereas Home has a comparative advantage in producing X. Given the assumption of perfect competition, prices must equal marginal costs. Hence the slopes of the transformation curves determine relative prices of good X in Home and Foreign, i.e. independent of demand, depending solely on production capabilities. The demand expansion curve (C resp. $C*$ in Figure 2.3) derives from a system of societal indifference curves; i.e. the aggregation of optimal consumption bundles (for which marginal rate of substitution equals relative prices) over various incomes given the relative prices.
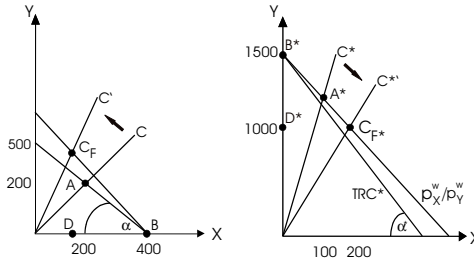
Figure 2.3: General equilibrum in a Ricardian world

If the relative price of good X decreases (increases), the consumption curve C (respectively C^*) tilts to the right (left) as more (less) X and less (more) Y is consumed. Under conditions of autarky, both markets are in equilibrium as consumption and transformation curves intersect, hence Home and Foreign produce and consume at their competitive equilibrium points (A, A^*). Allowing international trade to occur, foreign demand for X will raise its domestic price, while domestic demand for Y will raise the foreign price of Y. Finally, as demand shifts to the relatively cheaper goods, prices adjust and converge, leading to a uniform world market price for both goods. Equilibrium price relations are hence P_X^W/P_Y^W. The shift in the price relations affects both production and consumption. Consumption effects result in the C (C^*) - curve tilting toward Y (X) in Home (Foreign). Production effects result in movements along the transformation curve. As a result, the advantaged X (Y)- sector expands at the expense of the disadvantaged Y (X) sector in Home (Foreign). Complete specialization according to relative advantage leads Home (Foreign) to produce at point B (B^*). The new price relation P_X^W/P_Y^W enables Home – by exporting $\overline{DB}$ in exchange for imports of $\overline{DC_F}$ – to realize the consumption point C_F, that lies beyond the domestic transformation curve. Likewise, Foreign is enabled to consume at C_F^* by providing exports of X amounting

to $\overline{B^*D^*}$ in exchange for imports of $\overline{D^*C_F^*}$.

Hence, both countries gain with respect to the autarky case as the new consumption points unambiguously lie on higher indifference curves, despite Foreign having an absolute advantage in the production of both goods. Haberler generalized the Ricardian logic pointing out that comparative advantage need not result from different productivities, but can stem from various other differences. Particularly prominent are differences in factor endowments as suggested by neoclassical economists Heckscher and Ohlin. So called new trade theory discovered other sources of efficiency gains from trade, namely economies of scale and increased product varieties. These latter theories explain the prevalence of intra-industry trade (IIT) between countries with comparative advantages in similar sectors. Hence, for trade to be welfare enhancing, neither different productivities nor factor endowments are required as market structures and technologies provide additional sources of gain.

Figure 2.4 depicts the Heckscher-Ohlin (H-O) case. Here, the countries are identical with regard to available production technologies but differ in the relative abundance of their endowments with the two available factors of production, i.e. labor and capital. The two goods are produced with different factor intensities; production of one good is capital intensive whilst the other is labor intensive.
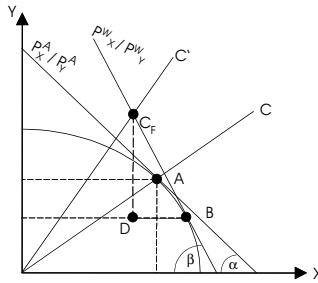
Figure 2.4: General Equilibrium in a Heckscher-Ohlin World.

In this case, different factor proportions are the basic sources of gains from trade: The relatively capital rich country specializes in the production of capital-intensive goods and exports some of these to relatively labor rich countries that in turn specialize in labor-intensive products and export some of these to the relatively capital rich country. The neoclassical conditions of production imply that increasing production of one sector causes marginal cost of producing that good to rise. Changing the production structure shifts the relation of factor prices: Increasing capital-intensive production requires a shrinkage of the labor-intensive sector which releases relatively more labor than absorbed (at given prices) by the expanding sector, thus causing the interest rate to rise relative to the wage rate. Hence the concave transformation curve. In Figure 2.4, the domestic autarky equilibrium is depicted in A, where the domestic transformation curve and consumption intersect (the slope of the transformation curve must equal the slope of the autarky price relation P_X^A/P_Y^A since the profit maximizing production of both goods implies $p_i = marginal\ cost_i; (i = X, Y)$). Allowing trade to occur gives incentives for expansion of the X-sector and contraction of the Y-sector since price re-

lations change in favor of X to $\frac{P_X^W}{P_Y^W} > \frac{P_X^A}{P_Y^A}$. Thus, production of X is expanded at the expense of Y up to the point where marginal costs in both sectors have adjusted to the new price data. Expansion of the X-sector halts as the increased marginal costs reach the higher world market prices. The changed production structure implies a shift from autarky point A to production point B where the slope of the transformation curve equals the slope of the world price relation curve. As a consequence of the risen relative X-price, consumption structure shifts toward Y (hence the new consumption curve C'). Exporting $\overline{DB}$ and importing $\overline{DC_F}$ allows the realization of the free trade equilibrium C_F beyond the transformation curve at which the supply is unambiguously superior to A. Relatively capital-(labor-) abundant countries would hence specialize in the production of capital- (labor-) intensive goods, to the effect that - after exchanging - both countries are enabled to realize consumption points beyond their domestic transformation curves as consumption and production must no longer coincide.

Thus, under the H-O assumptions, specialization according to comparative advantage resulting from different factor endowments provides scope for realizing gains from trade as do different productivities under the Ricardo assumptions. Whilst in the latter scenario, specialization is complete, the H-O-model usually implies incomplete specialization as changing world prices ultimately bring specialization to a halt.

As regards the aforementioned caveat against globalization based on the assumption that due to internationally mobile factors comparative advantages were bound to wane and trade no longer welfare enhancing, rebuttal is easy since there are only two ways by which factor mobility could deprive a country of all comparative advantage and deny it the possibility of gaining from trade: Either, international reshuffling of factors would have to result in every country in the world having the same internal cost structure as regards to every conceivable good and service or it would have to cause a complete withdrawal of all production factors from that country (Boudreaux, 2004, 347ff.)[3]

The concept of comparative advantage suggests that the potential for gains from trade and hence observable trade flows – whether stemming from Ricardian or Heckscher-Ohlin factors – is greater the more diverse countries' production conditions are. Yet, for trade to enhance welfare for all countries involved, comparative advantage based on cost difference is not necessarily required. Later trade theory models consider other sources of gain and thereby provide rationales for the empirically observed fact that trade relations are most intensive between countries of rather similar economic structure and the phenomenon of intra-industry trade.

2.1.2 Newer trade theories

While neoclassical economics has long been focused on comparative advantage as explanation for trade, only in the last decades has there been a rediscovery of theories that basically coincide with Adam Smith' view of trade: Concentrating productive efforts on one good and exchanging that for others as a means of getting more of all goods than possibly attainable in autarky. Viewed like that, trade is simply an efficient production technique (Buchanan and Yoon, 2002, 400).

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[3]   While the first corresponds to a monkey banging on a typewriter and by chance typing Hamlet, the second case corresponds to the absence of trade between earth and jupiter (Boudreaux, 2004, 376).

Figure 2.5 is therefore dedicated to a brief discussion of external economies of scale as one of the many aspects (e.g. tastes for variety, monopolistic competition, product cycles) emphasized by "newer trade theories" that shed light on sources of gain beyond comparative advantage. External scale economies – as modelled i.a. by Baumol and Gomory (1996) – are prominent as average costs of all firms in an industry decrease independently from a single firm's production volume. This implies a convex transformation curve which in Figure 2.5 is assumed to be valid for both countries; consumption and production conditions are identical in Home and Foreign.
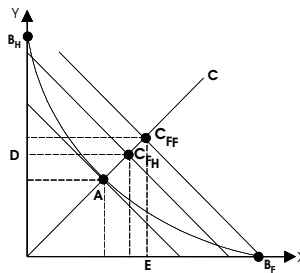
Figure 2.5: Trade under increasing returns

In autarky, the equilibrium A results for both. As production in A implies that both X and Y production are too low for both countries to exploit increasing returns, the role of trade is immediately plausible: it allows for a complete specialization and superior supply for both countries as home exports $\overline{B_H D}$ of Y in exchange for $\overline{DC_H^F}$ of X while Foreign exports $\overline{B_F E}$ units of X (= $\overline{DC_H^F}$) in exchange for $\overline{EC_F^F}$ units of Y (= $\overline{B_H D}$). Thus, the new consumption points C_H^F (C_F^F) are reached.[4]

Hence, economies of scale are an additional source of gain from specialization and trade, independent of the existence of comparative cost differentials. These would be consequence rather than rationale for trade.

Further reasons for welfare enhancing trade may be rooted in factors related to the demand side: The distribution of preferences may be such that foreigners value a domestically produced good more than domestic consumers or consumers may have a "taste for variety", i.e. derive a higher utility from a wider range of product varieties only attainable via trade.

2.2   Is trade liberalization subject to diminishing returns ?

The notion of general superiority of openness as opposed to closing domestic markets to foreign producers has been challenged repeatedly. Numerous reasons and motives have been proposed as to why a country might be better off imposing trade barriers: Protecting infant industries, preventing unemployment, maintaining the balance of payments, raising tax

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[4]   In the special case depicted, quantities produced and thus relative prices and thus terms of trade remain unaffected. If this were not so, the gains of the country whose terms of trade deteriorate would be reduced whilst the other country would additionally realize a terms of trade gain. Nevertheless, both may gain.

revenue are traditional motives, supporting "national champions", protection of labour or environmental standards more recently quoted ones. In almost all circumstances, all of these are found wanting, in the sense that these objectives (if worthwhile) could be reached with lower-cost domestic instruments. Caveats against free trade were theoretically established under various labels but their policy implications have subsequently been empirically dismissed: The practicability of infant industry protection, designed to temporarily shelter a domestic industry from foreign competition so as to assist its gaining competitiveness by making use of learning curve effects (List 1856), and of the implementation of optimal tariffs – motivated by the desire to improve a large country's terms of trade – is highly doubtful.

Interestingly, Paul Krugman, one of the founders of the latest challenge to the notion of unambiguous superiority of free trade has warned against the implementation of so-called "strategic trade policy".[5] Even if theoretically there are conditions conceivable under which some well-designed intervention into the international exchange of goods may be welfare enhancing, e.g. as remedies against external effects, these would constitute second-best approaches almost inevitably entailing unintended side effects in other markets. Thus, as a rule of thumb, openness to trade remains the best policy option for any country short of an omniscient and benevolent dictator. However, as the basic theoretical case for free trade has been circulating for some three centuries and inspired post World War II international economic diplomacy which has brought down the impediments to trade substantially, another basic presumption of the economist's profession could be expected to apply, namely the notion of *diminishing marginal returns*: Apparently, reducing barriers to the international exchange of goods involves political efforts at the supranational level. The perceivably unprecedented level of economic integration poses the question whether the returns to further liberalization are not diminishing; that is whether more efforts toward liberalization of trade would not constitute an overinvestment of political capital. The admittedly crude calculations[6] displayed in table 2.1. suggest that the effectiveness and efficiency of negotiation rounds is not exactly on the rise, to say the least.

Round	Duration (in months)	Return to round (as per centage reduction of weighted average tariff)	Return per month of negotiation
Annecy	8	3	0.375
Torquay	8	4	0.5
Geneva	16	3	0.188
Dillon	10	4	0.4
Kennedy	42	38	0.904
Tokyo	74	33	0.446
Uruguay	91	38	0.416

Table 2.1: Duration of GATT rounds, negotiated tariff reductions and marginal returns to negotiating. Source: Own calculations based on data compiled by the WTO (2007, 205).

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[5] Aware that his theoretical contribution lends itself to misuse as a justification for wrongheaded interventionist trade policies, Krugman made it clear on many occasions that he is highly sceptical about its usefulness and importance in practice. See for instance Krugman (1994, 110ff.).

[6] Numbers of participating countries, as well as tariff lines on which concessions were exchanged varied from round to round, moreover areas of negotiation were continuously expanded, making the overall impacts of each round hardly comparable in terms of the average weighted tariff.

As the required high-level diplomacy is both scant and costly, not only diffuse (and partly dubious) public concern but also economic literacy necessitates a justification of further efforts toward trade liberalization. After all, the optimum rarely coincides with the maximum and may in fact be a moving target. Put differently:

Does the fact that negotiations on trade liberalization take ever more time not hint at diminishing returns to the political capital invested ? Has the point of optimality in dismantling trade barriers already been passed?

The potential benefits from further liberalization as well as the sources and the incidence of benefits and the relative importance of the sources of gain require an appraisal. Thus, areas that promise high returns on investment can be identified.

2.2.1   How far has globalization gone ?

Beyond the deeply conflicting perceptions as to the *effects* of globalization on world welfare in general and wages, workers' rights, the environment and democratic sovereignty in particular, both globalization's critics and enthusiasts seem strikingly united in their assessment of the *magnitude* of economic integration.

While scholars of different fields are heavily divided in their assessment of whether globalization has gone too far or proceeded too quickly, whether the institutional environment has been able to keep pace and whether more or less international policy coordination to remedy alleged negative consequences is desirable (e.g. Esty 1994 vs. Sally 2001) few would question that the level of integration currently observed is unique and unprecedented.[7]

Yet, when defined as openness as measured in terms of the percentage of GDP traded across borders as given by the openness indicator $\frac{(exports+imports)}{GDP}$, the current state of integration of the world economy is just resuming the levels that were reached in the times of the gold standard; i.e. recovering from the disruptions caused by the great depression and two world wars. After all, globalization is not so new a phenomenon. Baldwin and Martin (1999) assess similarities and differences between the identified two waves of globalization, i.e. the periods from 1870 to 1914 and 1960 to present. Striking similarities are found in the aggregate data regarding the development of trade-to-GDP and capital-flows-to-GDP. Also the drivers of integration – radical reductions in political and technical barriers to international transactions – are found to be akin. Separated by a resurge of protectionist barriers as well as tight controls of migration and capital flows, these two waves have a couple of differing characteristics though: The first wave began from a more even income distribution between trading states whilst the second entailed a high level of foreign direct investment (FDI) that shifted the frontier between tradables and non-tradables, opening previously closed sectors of the economy to trade, and was accompanied by unprecedentedly low communication costs (Bordo, Eichengreen and Irwin 1999). The main differences between these tides of globalization boil down to the high level of intra industry trade, the increased fragmentation of production ("slicing up the value chain") the emergence of trading nations whose trade-to-GDP-ratio exceeds unity ("super-trading economies"), and the increased role of low-wage

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[7] Among the few that questioned the magnitude of international integration and its actual effects on product and factor markets it was either blamed or welcomed for was Krugman (1994) who discovered some "cry wolf"- effects at work in the globalization discussion, leading to what he terms "'Pop Internationalism'".

exporters of manufactures increasingly giving rise to trade along H-O lines which are peculiar to the current tide (Krugman, 1995, 332 ff.).

However, not only the novelty and uniqueness of current levels of international economic integration but also its pervasiveness is often subject to misperception. Notwithstanding the remarkable cumulative success of eight liberalization rounds held under the auspices of the General Agreement on Tariffs and Trade (GATT), and despite the mentioned dramatic decline of communication costs and the reduction of tariffs, *substantial barriers to trade still remain*.

Anderson and van Wincoop (2004) survey the extent of trade costs, broadly defined to include all costs incurred in getting a good to a final user other than the production cost of the good itself, i.e. transportation costs, tariffs and non-tariff barriers, information costs, contract enforcement costs, costs associated with the use of different currencies, legal and regulatory costs, and local wholesale distribution costs. They find the "*death of distance*" – at least implicitly assumed by most scholars and commentators on globalization – to be prematurely proclaimed with trade costs being non-negligible even in advanced countries, averaging 170 per cent of production costs. Their purely international component, i.e. transport and border barriers net of wholesale distribution costs are found to amount to 40-80 per cent in industrialized countries (Anderson and van Wincoop, 2004, 691f.).

Even for the supposedly most integrated OECD countries that have been most actively engaged in liberalization efforts, market integration seems far from complete. Contrary to the general public's perception, the question "*has globalization gone far enough?*" may be asked with some justification as do Bradford and Lawrence (2004) who point to the persistent substantial fragmentation of the markets of selected industrial countries. To detect the fragmentation of markets, price differentials are examined comparing producer and consumer price data: Integrated markets imply that sellers cannot raise domestic prices above the level that would attract arbitrage. To infer barriers to integration, Bradford and Lawrence (2004) hence compare domestic prices with those that would prevail if markets were fully integrated in the sense that producer prices differ only by the cost of transportation. Comparing price data on a sample of 3,000 goods collected by the OECD to estimate purchasing power parity, they find producer prices to be typically differing by some 20 per cent between adjacent countries, a range well exceeding transportation costs.

Large border effects are also detectable by comparing observable trade flows to those predicted by so-called gravity models. These models estimate potential trade flows as a function of i.a. countries' size and distance from each other. Most estimated gravity functions take the form of

$$X_{ij} = \alpha_1 y_i + \alpha_2 y_j + \sum_{m=1}^{M} \beta_m ln(z_{ij}^m + \epsilon_{ij})$$

where X_{ij} would be the log of exports from i to j, y_i and y_j would be the log of GDP of the two countries, z_{ij}^m would denote a set of factors to which bilateral trade barriers are related and ϵ_{ij} would be a disturbance term.

Using bilateral distance and an indicator variable that is one if the regions are in the same country and zero otherwise as z variables, McCallum (1995) estimates a gravity function

for the trade between the US and Canada: A remarkable home bias in the way Canadian provinces trade with each other as compared with their trade with US states of similar economic size and distance was detected. In a similar vein though with different methodology, Engel and Rogers (1996) find relative price changes to be much more similar within the adjacent states than between them. They find crossing the border to exert the same effect on price dispersion as separating locations by some 75,000 miles. Using a gravity model, Frankel (2001) reveals that two firms located on opposite sides of a national border, operating under different legal systems, statistically trade two-thirds less with each other than they would if there were no border. If the countries have different currencies, trade falls by a further two-thirds, even when the exchange rate is fixed. Hence, despite the cultural and physical proximity, Canadians are ten times more likely to trade with other Canadians than with Americans.

A series of studies undertaken by the Peterson Institute for International Economics in Washington is directed at measuring the *cost of protection* in major countries and regions of the world. Hufbauer (1994) examined the USA, subsequent research canvassed the cost of protection in Japan (Sazanami & al. 1995), Korea (Kim & al. 1996) , China (Zhang & al. 1998) and Europe (Messerlin 2000). To facilitate computation and comparison, all of those studies use a partial equilibrium model, hence analyzing the behaviour of particular sectors separately, treating the impacts on other sectors as fixed. Thus, partial equilibrium studies ignore the mutual interrelationships between prices and outputs of goods from different sectors, assuming repercussions from one market to another to be slight enough to be disregarded. Hence, in estimating the cost imposed on the economy by the various protectionist measures, only the market subject to the respective trade restriction is examined while sectoral interdependencies are abstracted from (McCulloch, Winters, and Cirera, 2003, 97).

Estimations of the welfare cost of protective measures need to take into account the nature of the barriers that are causal to the noted trade costs. The quantitative analysis of the impediments to arbitrage so far sketched does not establish what exactly these barriers are. On the one hand, some barriers may result from regulative measures that reflect differing preferences for public goods so that their removal may actually reduce welfare by suppressing diversity.[8] Some trade costs may in fact be consequences of a pursuit of benefits (Anderson and van Wincoop, 2004, 748). Differences in national languages, cultures and customs may foster insular economic behavior and reduce trade but actually confer gains to the nations that maintain them.[9] On the other hand, it needs to be considered that many barriers not only create dead weight losses but also direct costs.[10] Removing such barriers could deliver gains from freeing up ressources that are stuck in duplicative procedures in addition to the dead

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[8] For example, preferences over environmental quality or genetically modified food clearly differ between countries and may result in regulations that – although not necessarily discriminatory – exert a dampening effect on international price arbitrage simply because catering to the local preferences does not pay for foreign suppliers.

[9] Japanese business practices that rely on long-term relationships may be a case in point.

[10] For example, a tariff on imported bananas raises the cost to consumers and the price received by producers. In addition to the redistribution from consumers to producers and the exchequer, this barrier poses a cost to society, namely the dead weight loss: The higher price induces less consumption and more production than the true social costs warrants. Other barriers may consume real resources in addition to the dead weight loss. If two countries have very similar criteria for the approval of medicines but each country insists on its own officials certifying all drugs consumed within its borders, firms wishing to sell in both make expenditures to determine and meet both countries' demands.

weight losses (Bradford and Lawrence, 2004, 12). Hence, for appraising the stakes involved in negotiations directed at multilateral trade liberalization it does not suffice to look at the remaining fragmentation of the relatively highly integrated manufacturing sectors of industrial countries. The nature and incidence of the barriers to trade among the rest of the world must be examined, too. This also matters because the "missing trade" need not necessarily be a result of trade policy.

2.2.2   What are the impediments to exploiting the gains from trade ?

Anderson and van Wincoop (2004, 693) bemoan a remarkable paucity of detailed data on policy barriers to trade. Since trade theories and politics have been emphasized for hundreds of years it might appear natural to assume trade policy measures to be well-documented. But this is by no means so.

2.2.2.1   Average tariffs, tariff peaks, and tariff escalation

A superficial glimpse at Figure 2.6[11] suggests an epochal decline of average tariffs imposed on foreign goods both by developed and developing countries. In successive rounds of liberalization, average tariffs on manufactured products in industrialized countries were brought down from 10 per cent in the 1980s to some 5 per cent at the outset of the Doha development round set off in 2001. At the same time, developing countries' average tariffs fell from well above 25 to 13 per cent.
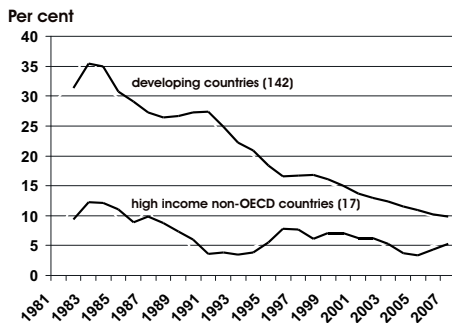
Figure 2.6: Development of average tariffs. Source: Own compilation from World Bank data, retrieved on 10/01/09 at http://go.worldbank.org/LGOXFTV550.

These average tariffs give a distorted picture of the actual incidence of trade barriers, however. For a number of reasons, average tariffs are an inadequate measure to assess restrictiveness to international exchange of goods: First, average tariffs do not take into account the

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11   As for the classification of countries, confer the data sheet "trends in average applied tariff rates in developing and industrial countries 1981-2007", retrievable at http://go.worldbank.org/LGOXFTV550. Last access: 10/01/2009.

relative importance of goods on which they are levied and hence do not capture the extent to which trade flows are distorted. An alternative measure are average weighted tariffs that weight each tariff with the amount of traded goods it is applied to. This is not less troublesome though, as the average weighted tariff likely underestimates the extent of overall protection: the lower weighting may result from the high barriers that confront international exchanges of the good and reduced trade flows in the first place; thus a low weight suggesting minor importance may in fact be the result of a high barrier. Second, average tariffs are depicted as ad valorem tariffs, that is tariffs levied as a percentage of the value of a trade good. In reality, however, many governments make use of specific duties, that is a constant levy per quantity imposed on the importable, irrespective of its value. Thus, productivity gains – like economic downturns – resulting in lower world market prices automatically entail higher protection for the goods in question (WB, 2003, 122).

As shown in Figure 2.7, specific tariffs apply to a substantial percentage of agricultural products but also to a number of manufactures and are particularly used by the four large trading nations (Quad), i.e. the US, EU, Japan and Canada.[12]

Figure 2.7: Percentage of tariff lines containing non ad valorem duties. Source: Own compilation from WTO data ("tariff profiles"). Retrieved at http://stat.wto.org. Last access 10/01/2009.

Third, average tariffs - weighted or unweighted - mask high tariff peaks for certain products. Agricultural and textile products, for example are subject to peak tariffs amounting on average to three times the mean in some countries and also some industrial goods are protected by extraordinarily high peak tariffs (Francois, van Meijl, and v. Tongeren, 2005, 355). The concentration of these peaks in products in which developing countries have comparative advantages is most unfortunate from a development perspective (Hoekman, Ng, and Olarreaga (2002)).

Fourth, the figures on average tariff rates conceal the tariff structure which is of interest in determining the "effective" protection: Tariff escalation, that is tariff rates increasing with the degree of processing, leads to substantially higher protection than the actual tariff rates applicable to the goods in question suggest.

Taking escalating tariffs into account allows for calculation of the effective rate of protection

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[12] Low income countries comprise: Bangladesh, Guatemala, Indonesia, Kenya, Malawi, Togo, Uganda, and Zimbabwe. Large middle income countries are: Brazil, China, India, Republic of Korea, Mexico, Russia, Turkey, South Africa. Other middle income comprise: Costa Rica, Jordan, Malaysia, Morocco, Philippines, Kazakhstan. All data are from 2007, except for Malawi which is from 2006.

that is often underestimated by referring to the nominal tariff. The effective rate of protection (ERP) as defined by Corden (1966) for an industry that produces a single good (j) by combining primary factors of production with n intermediate goods is obtained as:

$$e_j \equiv \frac{v_j - v_j^*}{v_j^*} = \frac{[p_j - \sum_i p_i a_{ij}] - [p_j^* - \sum_i p_i^* a_{ij}]}{p_j^* - \sum_i p_i^* a_{ij}} = \frac{p_j^* t_j - \sum_i p_i^* t_i a_{ij}}{p_j^* - \sum_i p_i^* a_{ij}} \qquad (2.2.1)$$

where

$a_{ij} \equiv$ amount of good i required to produce one unit of j,

$p_i^* \equiv$ world price of good i

$t_i \equiv$ nominal tariff rate on good i

$p_i \equiv$ domestic price of good i faced by producers of final goods $= p_i^*(1 + t_i)$

$v_j \equiv$ value-added per unit of j in the tariff-distorted situation $= p_j - \sum_i p_i a_{ij}$

$v_j^* \equiv$ value-added per unit of j under free trade conditions $= p_j^* - \sum_i p_i^* a_{ij}$.

The effective rate e_j is hence related to the nominal rate of the final and intermediate goods. When there are no intermediate goods ($a_{ij} = 0$), the effective rate equals the nominal rate. When all nominal rates are equal, the effective rate has the same value. Raising (lowering) tariffs on intermediates, however, reduces (increases) the effective rate of protection afforded to the final goods sector. Taking into account the current structure of tariffs as displayed in Figure 2.8[13] it can easily be seen that effective protection is much higher than the figures on average tariffs suggest.
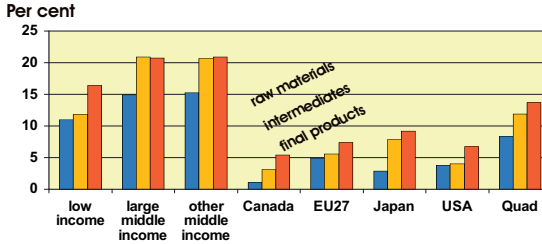
Figure 2.8: Tariff rates of selected countries, by degree of processing. Source: Own compilation from World Bank data, retrieved on 10/01/09 at http://go.worldbank.org/LGOXFTV550.

Ironically, the reductions in average tariffs depicted in Figure 2.6 have actually led to a rise in effective protection in some cases: Tariff reductions brought about in the multilateral rounds were typically higher for primary than for processed products, thus effectively increasing protection of the latter. Tariff escalation in high income countries is widely acknowledged as a key impediment to development for poor countries: reducing demand for processed imports from developing countries, it hampers diversification into higher value added exports.

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[13]   Countries are classified as in fn. 12 above.

2.2.2.2   Non-tariff barriers to trade abound

The average nominal tariffs shown in Fig. 2.6 not only understate the extent of barriers to trade by abstracting from effective protection but are also misleading inasmuch as they do not capture quantitative restrictions such as quotas, tariff rate quotas (TRQs) and other non-tariff barriers (NTBs). Quotas limit the imports of a product group to a fixed quantity beyond which market access is denied. Particularly prominent is the textiles and clothing sector, where a comprehensive administered quota system has prevailed under the infamous multi fibre agreement (MFA). Despite the MFA's replacement by the Agreement on Textiles and Clothing (ATC) resulting from the Uruguay Round, which foresaw a phase out of all quotas by the beginning of 2005, numerous quotas are still in place – albeit partly on other grounds, e.g. the WTO accession of China. Also in other sectors,[14] quotas are still applied – despite their being officially disallowed under WTO rules (cf. GATT Art. XI).

Tariff rate quotas (TRQs) are a hybrid of tariffs and quotas: Within a certain quota, imports are subject to a relatively low tariff or duty free, whilst imports that exceed the quota are charged with a significantly higher, often prohibitive, tariff. TRQs are particularly prominent in agricultural products where they also entail tariff escalation in many countries, i.e. tariff supplementing quotas are more pervasive in later stages of processing (WB, 2003, 125).

Besides quotas and TRQs, a host of other non-tariff barriers heavily restrict the exchange of goods and – more severely still – services, thus undermining the process of international division of labour and specialization according to comparative advantage. These more opaque NTBs include i.a. local content schemes (requiring investors to source a certain percentage of intermediaries from inside the host country), domestic regulations, government procurement procedures (that favour domestic over foreign suppliers) and voluntary export restraints. The latter consist of implicit quotas more or less voluntarily agreed to by the major exporting firms' governments, a prominent example being the VER between Japan and the US that aimed at containing Japanese export of automobiles. Reliable data on such NTBs are highly difficult to obtain and their overall effect is not easily assessable although NTB-coverage ratios, estimated by UNCTAD and documented in the TRAINS database[15] give an idea of their extent.

As the discussion of observable and hidden trade restriction shows, official average tariff rates have come down to historically low levels. However, concluding that trade restrictions were negligible would be premature as tariff peaks abound, tariff escalations tend to have maintained if not increased protection for certain highly processed goods and a host of non-tariff barriers have become at least relatively more important. Other impediments to international trade that heavily distort specialization patterns are implied by export subsidies. Particularly prominent in markets for agricultural and capital goods and mostly used by OECD countries, these subsidies come in many intransparent disguises such as e.g. tax concessions to export related R&D and subsidized export financing (Vousden, 1990, 43). Basically, they give domestic exporters an advantage over foreign producers that is not justified by sources of comparative advantage and thereby prevent non-subsidizing countries from exploiting their

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[14] Heavily quota-protected sectors are e.g. steel, sugar, dairy products and cotton.
[15] The Trade Analysis and Information System (TRAINS) covers tariffs and non-tariff measures as well as import flows for more than 140 countries. It can be retrieved at http://r0.unctad.org/trains_new/database.shtm, last access 10/01/2009.

comparative advantage. Thus, subsidized, relatively inefficient domestic producers crowd out more efficient foreign production.

Having surveyed the extent and form of barriers to trade, a discussion of their welfare effect is warranted before the gains from liberalization can be meaningfully addressed.

2.3 Comparative analysis of the welfare costs of protective measures

In the Heckscher-Ohlin model, characterized by perfectly competitive markets, two goods, two factors and one technology, countries are small in the sense that domestic demand does not affect world prices and hence governments are unable to deliberately affect their terms of trade. Under these conditions, analyzing the welfare effects of a tariff suffices to illustrate the basic welfare implications of trade restricting measures (Vousden, 1990, 25).
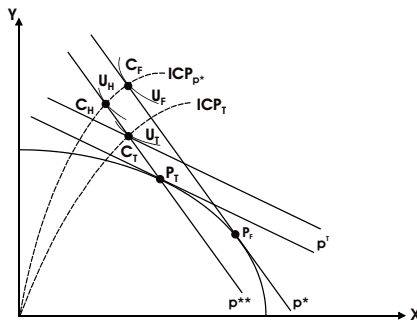
Figure 2.9: General equilibrium effects of a tariff on imports.

Starting with free trade and assuming no distortions other than the tariff, P_F and C_F represent production and consumption points respectively. Line p^* represents the economy's consumption possibility as given by the world prices. The dotted line ICP gives the income consumption path for a given price relation, U_F refers to the corresponding indifference curve.[16]

A tariff imposed on imports of good Y – given fixed terms of trade and perfect competition in domestic markets – causes the price of Y to rise for domestic consumers and producers, thus the new domestic price relations are given by p^T which is flatter than the world price line p^*. This increase in the relative price of Y causes ressources to move from the X-sector to the Y-sector, with the economy's production point shifting from P_F to P_T; the point of tangency between the price line and the transformation curve. Less straightforward is the identification of the new consumption point. Trade between Home and Foreign is at world prices and Home's expenditure must equal its income at world prices. However, domestic

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[16] The depiction of societal indifference curves is somewhat arbitrary since construction encounters well known problems of preference aggregation which questionably assumes cardinal preferences. For merely illustrative purposes this shortcoming may be forgivable.

consumers face the tariff-distorted domestic price ratio. Hence, the consumption point is on the inward shifted world price line p^{**} through production point P_T and on an indifference curve tangent to a domestic price line. Thus, the consumption point C_T is at the intersection of the domestic price line and the income consumption path for relative prices p^T. ICP_T lies to the right of ICP_F, as due to the higher relative domestic prices for Y, a smaller proportion of a given income is spent on Y. The tariff's effect can thus be summarized:

- resources are shifted from the unprotected to the protected sector

- consumption of the importable falls, with income and substitution effect reinforcing each other (provided Y is non-inferior)

- imports fall as a result of the prior effects

- welfare decreases under the tariff compared with free trade: The total loss shows in the indifference curve U_F being lower than U_T. Hypothesizing consumers' choices occured under undistorted prices leading to C_H. Total loss can be decomposed in consumption and production loss: The utility loss from U_F to U_H denoted the former, the movement from there to U_T captures the latter

- even if production does not adjust, there is still a fall in both consumption and imports of Y, welfare is reduced through the distorted prices faced by consumers.

- even though income equals expenditure at world prices, expenditure exceeds the value of output at domestic prices (C_T is on a price line above p_T).[17]

The incidence of the tariff-induced welfare loss can be more accessibly depicted in a partial equilibrium framework:
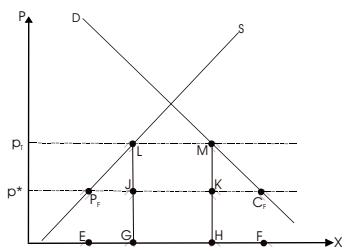
Figure 2.10: Partial equilibrium effects of an import tariff.

Without the tariff, domestic demand for Y is supplied both domestically ($\overline{p^*P_F}$) and by imports ($\overline{P_FC_F}$). Imposing the tariff causes an increase in domestic production by $\overline{P_FJ}$ (protective effect), a decline of demand by $\overline{C_FK}$ (consumption effect) and a decline in the import volume by $\overline{P_FJ}$ and $\overline{C_FK}$ (trade effect) as cheaper imports are substituted by more expensive exports and the consumption effect implies a reduction in import demand. The

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[17]   The reason for this is that the government was implicitly assumed to redistribute the tariff revenue lump-sum back to the economy, i.e. in a non-distorting manner.

import value decreases from $\overline{EFC_FP_F}$ to $\overline{GJKH}$ implying a balance of payments gain, the difference $\overline{JKLM}$ between the domestic expenditures for imports $\overline{GLHM}$ and the value of imports $\overline{GJKH}$ is a fiscal revenue. Social costs can be inferred as producers' rents increase by $\overline{p^*P_FLP_T}$ whilst consumers' rent shrinks by $\overline{p^*C_FMP_T}$. Thus, domestic consumers lose more than domestic producers gain. The net loss (dead weight loss) is given by the triangles $\overline{P_FJL}$ and $\overline{MKC_F}$ which are often referred to as Harberger triangles reflecting the role of Harberger in developing and popularizing measures of the dead weight loss in tax policy (Vousden, 1990, 29).

In the static, competitive Heckscher/Ohlin framework, the efficiency effects of quantitative restrictions do not differ from those of a tariff. However, unlike the tariff that creates a fiscal revenue, the quota does have a different distributive effect inasmuch as it creates a quota rent. By whom this is captured depends on the allocation mechanism of market access.[18]


Figure 2.11: Partial equilibrium effects of a quota and an export subsidy.

The LHS of Figure 2.11 depicts the partial equilibrium effects of an import quota. Apart from being employed in an intransparent way that makes them easily bypass GATT Art. (11) that explicitly disallows their use, quotas are often used in GATT-conform fashion as anti-dumping or temporary safeguard measures. The quota restricts imports to Q so that all domestic demand that exceeds the quota must be met from domestic production. Subtracting Q horizontally from the demand curve yields the demand for domestically produced X (D'). The equilibrium domestic price is given where domestic supply and D' intersect. Consumption is at C_q while production is at X_q. The deadweight loss is given by the areas $\overline{EBC}$ + $\overline{AFG}$. Consumers lose $\overline{AGp^*p_Q}$ of which $\overline{p_Qp^*BE}$ accrues to producers in the protected industry while $\overline{ECFA}$ is a windfall gain (the quota rent) accruing to foreign producers.[19] Thus, in the competitive, static framework, a quota is equivalent to a tariff in all important respects as prices, output, transfers to the protected industry and dead weight losses. Hence, any quota has an implicit tariff that would yield the same effects (Vousden, 1990, 39f.).

The RHS of Fig. 2.11 depicts the partial equilibrium effects of an export subsidy. X is the exportable where p^* denotes the export price which is greater than the market clearing domestic price, so under free trade, $\overline{XF} - \overline{CF}$ – the excess of domestic production over

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[18] Theoretically, the government can appropriate this rent by auctioning quota rights. In pratice though, the rent tends to be captured by established foreign suppliers.

[19] Provided these quotas are not allocated in a government auction in which case the rent might accrue domestically.

domestic consumption – would be exported. If the government subsidizes all export at a rate of p^*p_S, domestic producers receive p_S for each unit exported, so unless consumers also pay p_S, it pays for the producers to export all production. The final outcome has producers receiving p_S per unit and expand production to X_S. Domestic consumers have to pay p_S per unit which leads them to reduce consumption to C_S, so exports expand to $X_S - C_S$. The subsidy costs the taxpayers $\overline{ACGE}$ and the cost of $\overline{p_SAB_p^*}$ is borne by consumers. Against these costs there is a transfer to the X-sector amounting to $\overline{p_SEFp^*}$. The net outcome is a dead weight loss equal to $\overline{ABC} + \overline{EFG}$.

The basically equal effects of quantity and price restrictions outlined only hold in the static framework. Fundamentally different results obtain if these narrow assumptions are relaxed and parameter shifts are taken into account: The *dynamic inequivalence* of tariffs and quotas is most obvious in the case of technological progress. Suppose the exporting firms realize an increase in productivity. An ad valorem tariff would allow domestic consumers to share this productivity gain through cheaper imports: P_T would be subject to a parallel downward shift, causing the deadweight loss, the loss in consumers surplus and the transfer to producers to shrink. Under a quota though, the market share of foreign firms does not expand, so the productivity gains cannot be passed on to consumers. The dead weight loss increases. Likewise, a production cost increase in the domestic industry results in an upward adjustment of protection (the p_Q line shifts upwards in the LHS of Fig. 2.11) whereas under a tariff the protection remains fixed. Hence, quota protection is "open-ended" (Vousden, 1990, 64f.). Thus, in the dynamic context, an industry protected by quotas may have less incentive to invest in R&D activities and breed technological progress. In the presence of other pressures it is also less likely to resist cost increases. A tariff, on the other hand imposes a discipline on domestic firms as these bear the full burden of any upward shift in their cost curves.

The discussion so far reveals that, in assessing the welfare reductions entailed by fragmented markets and potential welfare gains from liberalization, the kind of barrier impeding more intensive trade flows matters. Taking stock of the prevailing trade restrictions and differentiating between them as regards to their impact on prices, production, consumption and thus their distortive potential leaves a puzzling picture:

Substantial reductions of tariffs have been achieved in the last decades – albeit leaving tariff peaks largely untouched and hardly reducing escalation. Quantitative restrictions and more opaque NTBs, however, have at the same time gained relative importance. Thus, the relatively efficient instruments of protection[20] have been brought under disciplines, leaving the field to the more distorting measures (Sykes 2001). These stylized facts hint at potentially high gains to be had from further liberalization.

2.4   Estimations of the potential gains from liberalizing trade

While the aforementioned studies differ as to the model they are based on (i.e. price differentials vs. gravity estimations, partial vs. general equilibrium approaches) they have the common feature of determining the cost and incidence of protection in single countries, respectively groups of countries rather than the gains that could result from a new round of

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[20]   This seems like an oxymoron but actually is not.

multilateral trade liberalization. Moreover, they are restricted to manufactures and hence do not cover the full range of issues that may be subject to international negotiations.

Since the 1980s there have been numerous attempts to assess the global welfare effects of trade policy reforms. Computable general equilibrium (CGE) models have been the standard instrument to estimate the income gains generated by trade liberalization and the distribution of those gains. First used in the ex post analysis of the Tokyo Round in the late 1970s, CGE modeling was particularly popular in the assessment of the effects of the Uruguay Round. CGE models provide stylized representations of a true economy, capturing the detailed interactions of agents across sectors. Hence, their virtue lies in the recognition of linkages between sectors and economies which allows grasping the impacts of trade liberalization on trade flows, output and patterns of specialization.

The entire economy is classified into production and consumption sectors, which are modelled collectively. Production sectors are linked in value-added chains from primary goods to the final assembly and consumption. Links between sectors span industries and borders and are both direct and indirect: direct links between sectors are such as e.g. the input of fertilizing chemicals into agricultural production; indirect links occur e.g. through the competitition for ressources in capital and labour markets. Thus, an evaluation of the effects of lifting steel quotas would not only consider the savings that accrue to the firms that buy steel but also the impact on the prices and sales of products made from steel, the impact on industries that compete with steel, the diversion of ressources out of the steel industry and into other industries in steel-importing countries as well as the opposite adaptations in steel-exporting countries and so on (Francois, 2004, 77).

Lately, partly also in the attempt to respond to this section's underlying question whether the benefits involved justify further political effort, a number of studies have tried to quantify the welfare gains that could materialize if further liberalization of trade were pursued. Most of these studies derive their data from the Global Trade Analysis Project, a worldwide collaboration on CGE modeling hosted at Purdue University in the US, that provides detailed national social accounting data concerning input-output, trade and final demand structures.[21]

Global CGE models are essential in determining the balance of benefits received by different countries under different liberalization scenarios although, by their nature they are unable to delve much below the aggregate country results (McCulloch, Winters, and Cirera, 2003, 108). However, comparisons of model results are notoriously difficult to make as models differ in numerous ways, e.g. as regards to dimensionality (regions and sectors covered), databases, closure rules which pertain to the actions of agents that are exogenous to the model (e.g. is government consumption fixed in real terms, i.e. pertinent to a growth rate equaling that of GDP? How are foreign capital flows assumed to behave?), time horizons, functional specifications, assumed elasticities and market structures. Moreover, studies tend to report different indicators as measures of the gains from trade, e.g. real GDP, real absorption and different units of measurement, e.g. dollars of different base years, as some cumulated discounted value or as percentage of some base year indicator. As compared to general equilibrium models used in domestic circumstances (e.g. for tax policy modeling), models designed to assess the effect of multilateral trade liberalization are necessarily less

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[21]   www.gtap.agecon.purdue.edu