Potential Economic Impact of the DDA on WTO and non WTO members

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FIRST, A WORD FROM OUR SPONSOR

The best reference on the market

Available for *Free*!

- http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000112742_20111107120307

or

- http://voxeu.org/sites/default/files/file/unfinished_business_web.pdf

Unfinished Business?
The WTO's Doha Agenda

edited by **Will Martin and Aaditya Mattoo**

A methodological challenge?

- May not look as a travel to the highest theoretical aethyr but still like moon exploration, it requires heavy engineering and new theory to deal with new, and old problems.

- **Step 1**: Assessing tariff cut effects (and domestic support reduction...)
  - Needs a global database at a detailed level (at least HS6) with bound and applied tariffs, including preferential agreements. Here *MAcMapHS6v2* (see Laborde 2008, Boumellassa, Laborde and Mitaritonna 2009)
  - How to deal with **flexibilities**?

- **Step 2**: Plugging information in an economic model.
  - Most powerful/used tool = Computable General Equilibrium Model, multi country, multi sector, dynamic. Here:
    - The *MIRAGE* model used at IFPRI and the *LINKAGE* model used at the World Bank
  - But how to **aggregate**

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Computable General Equilibrium

- Most used tool for assessing impact of trade policy scenarios (and other scenarios).
- Designed to deal with mid-term/ long term effects
  - Policy comparison tools (scenarios vs baseline)
  - Not a forecasting tool
- Single country, regional or global models (for instance in the last category GTAP, LINKAGE, MIRAGE)
- A kind of "HOS" model with
  - Several sectors (up to 500, 30 in average)
  - Several countries/regions
  - Several production factors
  - Several households (at least one: the representative agent)
  - Static or dynamic
  - Up to 200 000 equations and variables
- Provide results on trade, world prices, factor movement, production, real income (<u>welfare</u>: equivalent variation), GDP etc.
- Importance of Data quality, elasticities value and some assumptions (Armington assumption).
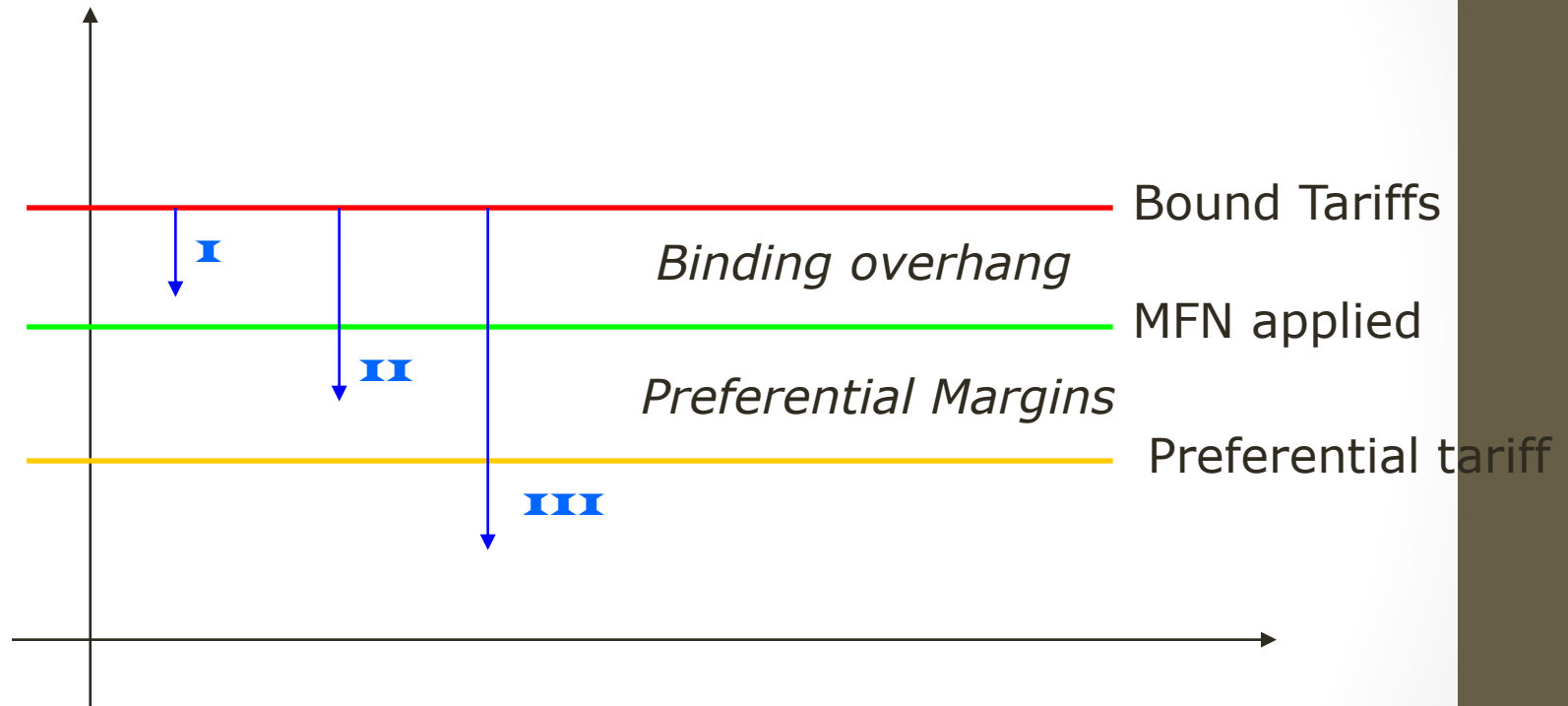
To Read: The Expected Benefits of Trade Liberalization for World Income and Development Opening the "Black Box" of Global Trade Modeling, Bouët. 2008, IFPRI Research report

CAVEATS

- We do not consider:
  - the effects of the liberalization in Services; Trade Facilitation; the links between FDI and trade; the pro-competitive/productivity enhancement effects of trade liberalization; The product diversification (new products).

- The absolute value of model results should be considered carefully, their relative values across scenarios teach us much more.

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ASSESSING MARKET ACCESS CONSEQUENCES ON TARIFFS

Tariff cut

Bound Tariffs

Binding overhang

MFN applied

Preferential Margins

Preferential tariff

I

II

III

8

The Tiered Formula for Agriculture

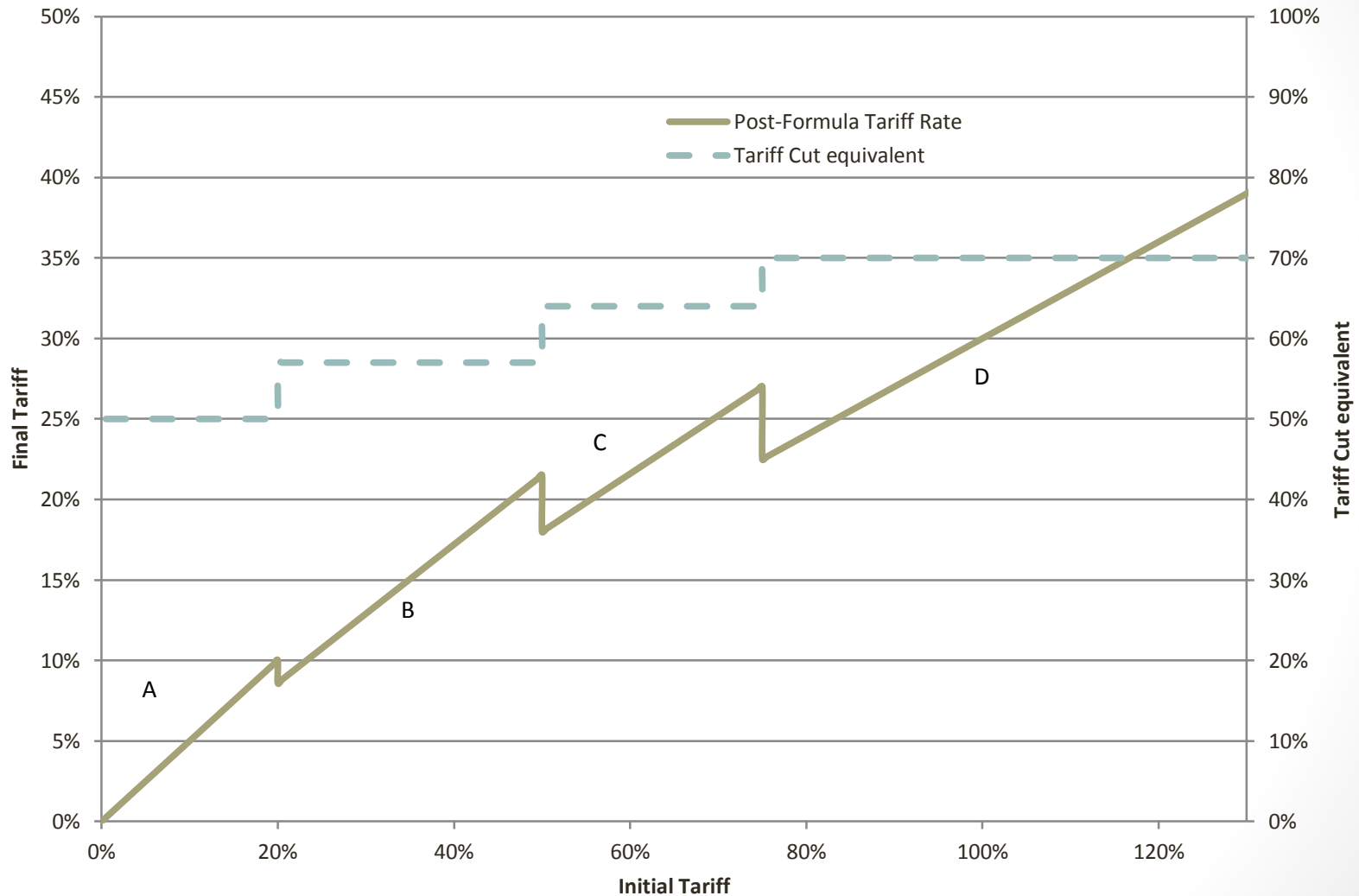| Band	Developed		Developing	
	Range	Cut	Range	Cut
A	0-20	50	0-30	33.3
B	20-50	57	30-80	38
C	50-75	64	80-130	42.7
D	>75	70	>130	46.7
Average cut	Min	54%	Max	36%

In addition to the formula

- Tropical products (list, modalities...)
- Tariff escalation
  - Rule aimed to be sure that processed products have deeper cut than primary products. Example from the modalities appendix:

Primary product	Processed product
0702.00 – Tomatoes, fresh or chilled	2002.10 – Tomatoes, whole or in pieces, prepared or preserved otherwise than by vinegar or acetic acid. 2002.90 – Tomatoes, prepared or preserved otherwise than by vinegar or acetic acid. 2009.50 – Tomato juice, unfermented and not containing added sugar or other sweetening matter. 2103.20 - Tomato ketchup and sauce
0707.00 Cucumbers and gherkins, fresh or chilled	0711.40 - Cucumbers and gherkins provisionally preserved 2001.10 - Cucumbers and gherkins prepared or preserved by vinegar or acetic acid

- **Long standing preferences: how to deal with them?**

Agric cuts & final tariffs, %

Developing country exceptions

- No cuts in for least-developed countries (30 members)
- Smaller cuts in small & vulnerable economies (around 50 SVEs), incl Nigeria and Côte d'Ivoire
  - Cuts [10%] smaller
  - Additional flexibilities
- Regional agreements
- Recently Acceded Members (RAMs)
  - Very RAM : no cut
  - Other RAM (inc. China) Cuts 7.5 percentage points smaller & an extra 2 years to implement
- Only 40 WTO economies under "normal" discipline (including special and differentiate treatment).
  - Egypt, Morocco, Tunisia, Turkey, UAE

Why flexibilities?

- Formula-based negotiations generally involve flexibilities
  - Typically most of the negotiations are about these flexibilities
- Can probably achieve more liberalization with some flexibilities than without
- But it is hard to know what is the right amount of flexibility
  - Too much and there is no market access gain.
  - Too little and there may not be an agreement

- Sensitive products (for everyone)

- Special products (no cut or very low cut, for developing countries)

Sensitive products

- Likely to be 4 or 6 % of tariff lines
  - 1/3 more for developing countries
- No. of tariff lines provides little discipline
  - Depth of cut is a more important discipline
- Cuts on sensitive prods linked to Tariff Rate Quotas (TRQ) expansion
  - 1/3 < formula if TRQ increase is 3/5% consumption
  - 2/3 less than formula if TRQ increase 4/6%
  - Opens options for tactical behavior
  - Makes them unsuited for developing countries

Non-Agricultural Market Access

- Swiss formula
  - Highest tariffs cut the most
- No final tariff, t_1 above the ceiling, a

$$t_1 = \frac{a.t_0}{a + t_0}$$

	Developed	Developing	LDCs	SVEs	Paragraph 6
Formula Flexibility	Swiss 8 None	20 (i) no cuts on 6.5%/7.5% of lines/imports; 20 (ii) $\frac{1}{2}$ cuts on 14%/16% of lines/imports; 22 (i) no cuts on 5%/5% of lines/imports; 22 (ii) $\frac{1}{2}$ cuts on 10%/10% of lines/imports; 25 no flexibilities	No cuts	No cuts	No cuts
Unbound	MFN 2001 + 25%				

Swiss formula tariff cuts
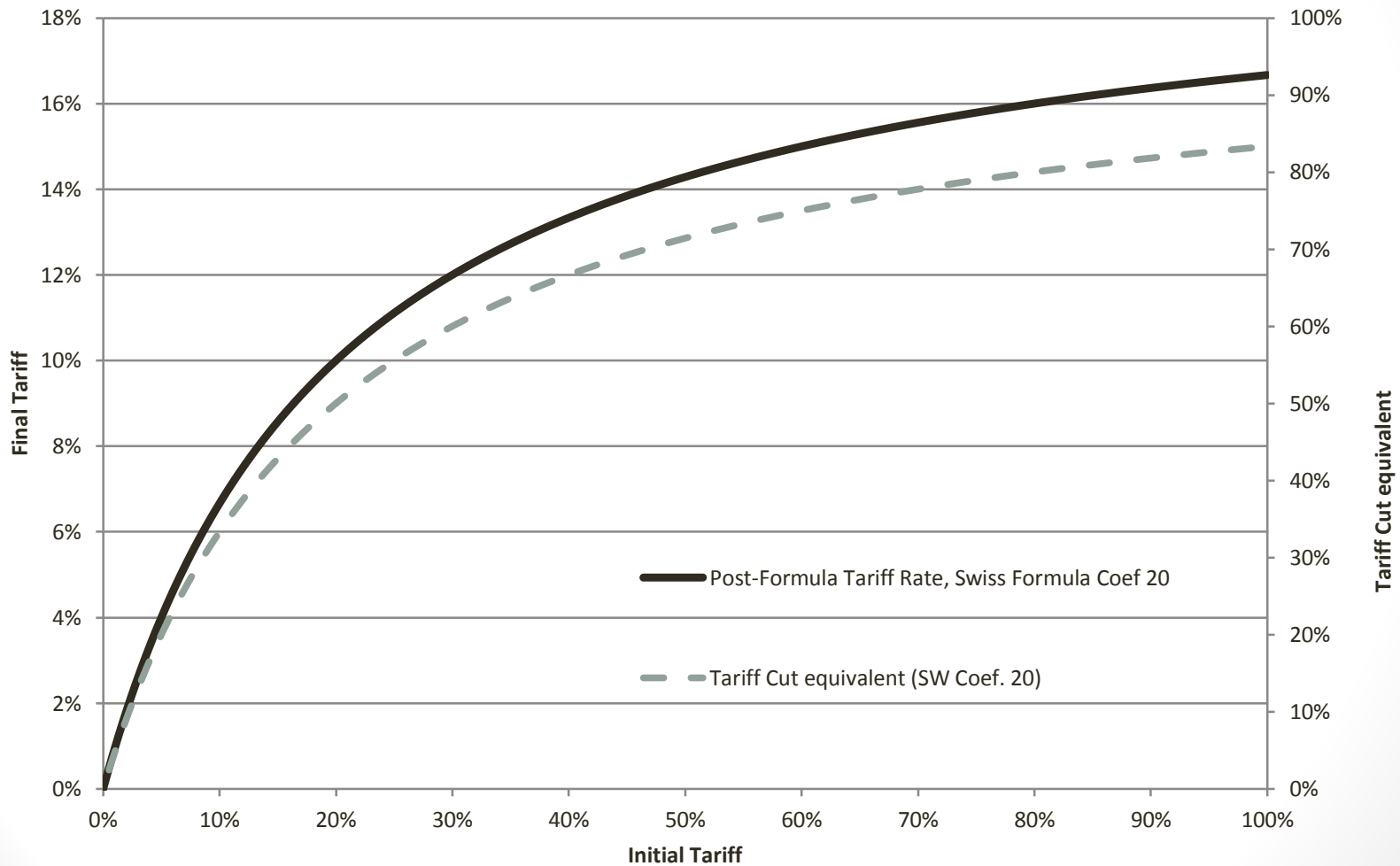
A menu of options for developing countries

Sectoral initiatives?

Table 1 Description of the initiatives

Init.	Sector	Number of HS6 products	% NAMA imports	Core Countries (CC)	% of world imports covered by CC	Additional countries Needed to reach 80% of world trade	Special and Differential Treatment (SDT)			Implementation periods	
							X	Y	Z	Dvped	Dvping
A	Bicycles and parts	19	0.5%	Japan, Singapore, Switzerland, Taiwan, Thailand	12.9%	Australia, Canada, China, Korea, Mexico, USA, EU	5%	5%	5%	5	5
B	Chemicals	911	12.2%	Canada, EU, Japan, Norway, Singapore, Switzerland, Taiwan, USA	56.9%	Australia, Brazil, China, Hong Kong, Korea, Mexico	4%	4%	4%	6	11
C	Electronics/elec trical products	489	29.5%	Hong Kong, Japan, Korea, Singapore, Thailand, US	45.2%	China, Taiwan, EU	5%	5%	5%	3	5
D	Enhanced healthcare	156	5.1%	Singapore, Switzerland, Taiwan, USA	33.5%	Australia, Canada, China, Japan, Mexico, EU	5%*	5%*	5%*	1	3+5
E	Fish and fish products	107	1.1%	Canada, Hong Kong, Iceland, New Zealand, Norway, Oman, Singapore, Thailand, Uruguay	10.9%	Japan, USA, European Union	15%	5%	100%	1	5
F	Forest Products	224	3.8%	Canada, Hong Kong, New Zealand, Singapore, Switzerland Thailand, USA	43.9%	China, Japan, Korea, Mexico, EU	4%	4%	4%	1	4
G	Gems and Jewelry	52	2.9%	Canada, EU, Hong Kong, Japan, Norway, Singapore, Switzerland, Taiwan, Thailand, USA	68.2%	India	3%	3%	3%	1	5
H	Hand Tools	32	0.1%	Taiwan	1.4%	Australia, Canada, China, Hong Kong, Japan, Korea, Mexico, Norway, Singapore, Switzerland, USA, EU	5%	5%	5%	5	5
I	Industrial Machinery	432	7.5%	Canada, EU, Japan, Norway, Singapore, Switzerland, Taiwan, USA	51.3%	Australia, China, Hong Kong, Korea, Malaysia, Mexico, Thailand, Turkey	4%	5%	4%	4	7
J	Raw Materials	137	12.0%	United Arab Emirates	0.7%	Canada, China, Hong Kong, Japan, Korea, India, Singapore, USA, EU	5%*	5%*	5%*	1	1
K	Sports Equipment	28	0.4%	Japan, Norway, Singapore, Switzerland, Taiwan, USA	43.6%	Hong Kong, EU	5%	5%	5%	5	5
L	Textiles & Clothing and Footwear	851	7.6%	EU	24.8%	Canada, China, Hong Kong, Japan, Korea, Mexico, Switzerland, United Arab Emirates, Turkey, USA	5%*	5%*	5%*	5*	5*
M	Toys	21	0.6%	Hong Kong, Taiwan	8.7%	Canada, USA, EU	5%*	5%*	5%*	1	3
N	Vehicles and vehicle parts	104	13.4%	Japan	4.8%	Canada, China, Hong Kong, Korea, Mexico, USA, EU	10%	5%	10%	5	5

Note: Trade information is based on a 2001-2004 average. HS6 nomenclature used is Rev. 1 1996. Additional countries are selected to cover 80% of WTO members' imports. % imports CC stands for the share in imports value of the core countries for the products covered by the initiative. An * indicates that this information is not available in the draft modalities and we assume the central value. In the SDT option, X indicate the % of tariff lines, Y the tariff cap and Z the limitations in terms of imports value

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Tariff Scenarios

- 6 different scenarios analyzed
- Presentation limited to 3
- The **Base**line, scheduled evolution of tariffs without the DDA. e.g. :
  - recent/new WTO members commitments
  - new FTA/CU
  - GATT Article XXVIII – DS related)
  - ….

- B - Formula without flexibilities (pure formula)
- D - Formula plus flexibilities (both for countries and products)

A theoretical approach (from Jean, Laborde and Martin, 2011, WBER)

DEALING WITH FLEXIBILITIES

A first attempt

Jean, S., Laborde, D. and Martin, W. (2006), Consequences of Alternative Formulas for Agricultural Tariff Cuts, in Anderson, K. and Martin, W. eds. Agricultural Trade Reform and the Doha Development Agenda with the use of different ad-hoc criteria:

- Top bound rates
- Top MFN applied rates
- Tariff revenue loss
  - Combining an "intensity" parameter (tariffs) with a "size" (trade) parameter
  - Sensitive products selection endogeneous to the liberalization features (formula, binding overhang).
  - Tariff revenue argument

A political economy model

- Grossman, G. and Helpman, E. (1994), `Protection for Sale', American Economic Review 84(4): 833-50 September.
- Bagwell, K. and Staiger, R. (2002), The Economics of the World Trading System.MIT Press, Cambridge.
- Our political objective function

$$W(p, u, v) = -e(p, u) + g(p, v) + z_p(p - p*) + h'p$$

where

  - *e* is the consumer expenditure function, defined over a vector of domestic prices, *p* and the utility level of the representative household, *u*;
  - *g(p,v)* is a net revenue or GDP function defined over domestic prices and a vector of specific factors, *v*;
  - *p** is the vector of foreign market prices for traded goods, so that (*p- p**) gives tariff rates; ·
  - z_p is a vector of net imports; z_p (*p- p**) is tariff revenues

Illustrative product list
But we build one list (or several...) by country!

Developed

WHEY WHETHER OR NOT CONCENTRATED OR SWE
YOGURT WHETHER OR NOT FLAVOURED OR CONT
SEMI MILLED OR WHOLLY MILLED RICE
FROZEN CUTS AND EDIBLE OFFAL OF FOWLS OF
MAIZE STARCH
SHELLED GROUND NUTS WHETHER OR NOT BROK
BUTTER EXCL. DEHYDRATED BUTTER AND GHEE
MILK AND CREAM OF A FAT CONTENT BY WEIGH
BLUE VEINED CHEESE
MILK AND CREAM IN SOLID FORMS OF A FAT
BUTTERMILK CURDLED MILK AND CREAM KEPH
WHISKIES
RAW CANE SUGAR EXCL. ADDED FLAVOURING O
CIGARS CHEROOTS CIGARILLOS AND CIGARET
SOYA BEANS WHETHER OR NOT BROKEN
BIRDS` EGGS IN SHELL FRESH PRESERVED
OLIVE OIL AND FRACTIONS EXCL. VIRGIN AN
CHEESE EXCL. FRESH CHEESE INCL. WHEY C
SPIRITS OBTAINED BY DISTILLING GRAPE WIN
REFINED CANE OR BEET SUGAR CONTAINING A

Developing

CIGARETTES CONTAINING TOBACCO
CANE OR BEET SUGAR AND CHEMICALLY PURE S
WHISKIES
BEER MADE FROM MALT
WINE OF FRESH GRAPES INCL. FORTIFIED WI
NON ALCOHOLIC BEVERAGES EXCL. WATER FR
FROZEN CUTS AND EDIBLE OFFAL OF FOWLS OF
SUGAR CONFECTIONERY NOT CONTAINING COCOA
CHEWING GUM WHETHER OR NOT SUGAR COATED
SWEET BISCUITS WAFFLES AND WAFERS WHET
PREPARATIONS FOR SAUCES AND PREPARED SAU
LIQUEURS AND CORDIALS
BREAD PASTRY CAKES BISCUITS AND othr
RUM AND TAFFIA
SPIRITS OBTAINED BY DISTILLING GRAPE WIN
RAW CANE SUGAR EXCL. ADDED FLAVOURING O
SAUSAGES AND SIMILAR PRODUCTS OF MEAT
VODKA
ETHYL ALCOHOL OF AN ALCOHOLIC STRENGTH B
BONELESS FROZEN MEAT OF BOVINE ANIMALS

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Average tariff reduction

Applied tariffs on imports

Agricultural Market Access	Base	Formula	with flexibilities
All countries	14.6	9.0	11.9
Developing (non-LDC)	13.3	11.3	13.2
High income countries	15.5	7.5	11.1
LDCs	12.5	12.2	12.5

Non Agricultural Market Access	Base	Formula	with flexibilities
All countries	2.9	2.0	2.3
Developing (non-LDC)	6.1	4.6	5.3
High income countries	1.6	1.0	1.0
LDCs	10.9	8.0	10.9

Applied tariffs faced on exports

Agricultural Market Access	Base	Formula	with flexibilities
All countries	14.6	9.0	11.9
Developing (non-LDC)	14.3	8.6	11.5
High income countries	15.1	9.3	12.3
LDCs	7.4	6.5	7.1

Non Agricultural Market Access	Base	Formula	with flexibilities
All countries	2.9	2.0	2.3
Developing (non-LDC)	2.9	1.9	2.1
High income countries	3.0	2.1	2.4
LDCs	2.8	1.5	1.8

But Ag. bound rates are cut deeper

Regions	Scenarios					
	0	B	C	D	D_1	D_2
WTO classification						
Developed WTO	26.0	8.4	8.4	13.1	8.4	13.1
Developing WTO non-LDCs	54.8	33.5	35.8	46.8	46.8	35.8
Normal developing WTO	66.5	39.8	39.8	54.4	54.4	39.8
RAM WTO	75.5	43.6	50.9	62.5	62.5	51.0
SVE WTO	19.0	14.5	20.1	22.4	22.4	20.1
China	17.2	11.0	13.0	16.1	16.1	13.0
Egypt, Arab Rep. of	43.5	25.0	25.0	40.3	40.3	25.0
EU27	23.8	7.6	7.6	11.8	7.6	11.8
Hong Kong (China) and Singapore	51.7	28.0	28.0	29.1	29.1	28.0
India	161.3	100.3	100.3	128.3	128.3	100.3
Indonesia	57.7	35.5	35.5	51.9	51.9	35.5
Japan	48.6	15.4	15.4	25.9	15.4	25.9
Korea, Rep. of and Taiwan (China)	70.7	41.6	43.1	71.0	71.0	43.1
Middle East and North Africa	81.0	50.6	50.6	63.7	63.7	50.6
Mexico	52.9	32.7	32.7	41.2	41.2	32.7
Nigeria	150.0	81.2	96.0	100.9	100.9	96.0
Pakistan	107.0	67.0	67.0	101.5	101.5	67.0

Applied Ag rates by country

Regions	Scenarios					
	0	B	C	D	D_1	D_2
Australia and New Zealand	2.5	1.5	1.5	1.9	1.5	1.9
Bangladesh	16.4	16.4	16.4	16.4	16.4	16.4
Brazil	4.8	4.7	4.7	4.8	4.8	4.7
Canada	10.7	5.1	5.1	8.6	5.1	8.6
Chile	1.7	1.7	1.7	1.7	1.7	1.7
China	7.8	5.3	6.3	7.5	7.5	6.3
Egypt, Arab Rep. of	15.7	14.8	14.8	15.7	15.7	14.8
EU27	15.9	6.6	6.6	10.2	6.6	10.2
Hong Kong (China) and Singapore	0.2	0.2	0.2	0.2	0.2	0.2
India	59.2	54.6	54.6	59.2	59.2	54.6
Indonesia	7.6	7.0	7.0	7.6	7.6	7.0
Japan	29.8	14.0	14.0	20.4	14.0	20.4
Korea, Rep. of and Taiwan (China)	27.8	18.5	19.8	27.1	27.1	19.8
Middle East and North Africa	36.9	30.4	30.4	36.5	36.5	30.4
Mexico	3.9	3.3	3.3	3.9	3.9	3.3
Nigeria	24.0	24.0	24.0	24.0	24.0	24.0
Pakistan	20.9	20.7	20.7	20.9	20.9	20.7
Rest of Europe	37.4	19.5	19.5	28.2	19.5	28.2
Rest of Latin America and the Caribbean	9.8	9.4	9.5	9.8	9.8	9.5
Rest of Southeast Asia	16.1	12.3	13.1	16.0	16.0	13.1
South Africa	5.9	5.3	5.3	5.9	5.9	5.3
Sub-Saharan Africa	13.3	12.8	13.1	13.3	13.3	13.1
Thailand	20.6	15.3	15.3	19.6	19.6	15.3
Turkey	13.6	10.9	10.9	13.2	13.2	10.9
United States	4.8	2.1	2.1	3.0	2.1	3.0

And on exports...

| Regions	Scenarios					
	0	B	C	D	D_1	D_2
Australia and New Zealand	17.3	10.2	10.4	13.9	11.6	12.7
Bangladesh	14.7	12.6	12.6	14.4	14.2	12.9
Brazil	18.8	9.8	10.0	13.7	10.6	13.0
Canada	9.0	5.2	5.2	6.8	5.5	6.5
Chile	8.7	5.2	5.3	6.4	5.5	6.2
China	16.8	9.7	9.8	13.8	11.9	11.7
Egypt, Arab Rep. of	8.0	5.6	5.6	6.7	6.0	6.3
EU27	16.6	10.6	10.9	13.6	11.8	12.7
Hong Kong (China) and Singapore	18.4	12.7	14.5	17.2	16.6	15.2
India	10.1	7.2	7.4	8.9	8.1	8.2
Indonesia	21.5	19.4	19.6	20.4	20.2	19.7
Japan	14.0	9.9	10.7	12.7	12.5	10.9
Korea, Rep. of and Taiwan (China)	16.0	10.8	11.2	12.8	11.8	12.3
Middle East and North Africa	16.3	8.6	8.7	10.7	8.7	10.6
Mexico	4.2	2.3	2.3	3.1	2.4	3.1
Nigeria	2.6	2.4	2.4	2.5	2.5	2.4
Pakistan	13.2	8.5	8.5	11.8	10.0	10.4
Rest of Europe	20.4	11.9	12.0	15.9	14.3	13.6
Rest of Latin America and the Caribbean	13.4	6.7	6.8	10.1	7.2	9.6
Rest of Southeast Asia	15.2	11.7	11.9	13.9	13.0	12.8
South Africa	15.5	9.7	9.9	12.5	10.2	12.2
Sub-Saharan Africa	6.6	4.5	4.5	6.1	4.7	5.9
Thailand	23.7	13.3	13.8	19.2	15.3	17.8
Turkey	9.1	5.7	5.8	7.1	6.4	6.5
United States	14.0	8.5	8.7	11.3	9.5	10.5

Faced tariff (all)	Kyrgyzstan	Initial	7.9%
	Kyrgyzstan	Final	7.4%

World average tariff by HS2 (selected products)	Initial	Final with flexibilities (D)	Cut in points	% reduction
othr Vegetable Textile Fibres. Paper Yarn and Wove	5.1%	5.1%	0.0%	-0.3%
Cotton	1.7%	1.7%	0.0%	-1.2%
Raw Hides and Skins othr thn Furskins and Leather	1.8%	1.7%	0.0%	-1.3%
Wool Fine or Coarse Animal Hair. Horsehair Yarn a	13.1%	13.1%	0.0%	-0.2%
Furskins and Artificial Fur. Manufactures Thereof	4.8%	4.8%	0.0%	-1.0%
Vegetable Plaiting Materials. Vegetable Products N	7.7%	7.5%	-0.2%	-2.0%
Products of Animal Origin Not Elsewhere Specified	3.8%	3.6%	-0.2%	-5.7%
Essential Oils and Resinoids. Perfumery Cosmetics	7.4%	7.1%	-0.3%	-3.5%
Oil Seeds and Oleaginous Fruits. Miscellaneous Gra	5.9%	5.7%	-0.3%	-4.5%
Miscellaneous Chemical Products	5.0%	4.7%	-0.3%	-5.9%
Coffee Tea Maté and Spices	4.6%	4.2%	-0.3%	-7.8%
Products of the Milling Industry. Malt. Starches.	19.2%	16.7%	-2.5%	-14.8%
Tobacco and Manufactured Tobacco Substitutes	23.3%	20.8%	-2.5%	-12.1%
Edible Fruit and Nuts. Peel of Citrus Fruit or Mel	11.8%	8.9%	-2.9%	-32.4%
Residues and Waste From the Food Industries. Prepa	9.3%	6.3%	-3.1%	-49.1%
Preparations of Vegetables Fruit Nuts or othr Pa	12.2%	9.1%	-3.2%	-35.2%
Dairy Produce. Birds Eggs. Natural Honey. Edible P	19.4%	16.0%	-3.3%	-20.7%
Live Trees and othr Plants. Bulbs Roots and the L	9.4%	5.9%	-3.5%	-59.5%
Sugars and Sugar Confectionery	28.1%	24.2%	-3.9%	-16.3%
Silk	32.0%	24.9%	-7.1%	-28.4%
Preparations of Meat of Fish or of Crustaceans M	22.4%	14.7%	-7.7%	-52.7%
Meat and Edible Meat Offal	29.1%	20.4%	-8.8%	-43.1%

THE CHALLENGE OF TARIFF AGGREGATION

The reality

- Tariffs (and tariff equivalents) are highly diverse
  - Illustration the EU dairy sector

AVE NC8 - 170 Bound tariff lines
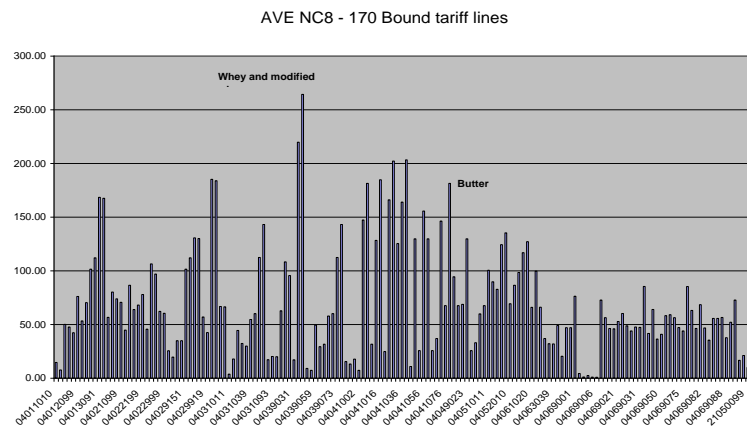
- Trade negotiations aimed to reduce tariff dispersion
  - Harmonizing formulas

- Welfare costs rise with distortions

The constraint

- Typically aggregate from 10,000 tariff lines to 20-25
  - Even largest databases, will have fewer than 40 traded sectors
  - Enormous waste of information
- Can we do better?
  - Yes we can
  - Yes we must
  - Have *the theory* and the data to do better
    - The data: MAcMapHS6 database (http://www.ifpri.org/book-5078/ourwork/program/macmap-hs6) , the TASTE software (http://www.ifpri.org/book-5080/ourwork/program/taste-tariff-analytical-and-simulation-tool-economists) .

- New method aimed to improve the welfare gains of harmonizing formulae
    Consistent Aggregator (Laborde, Martin and van Der Mensbrugghe)