Non-tariff Barriers to Trade in Goods, Services and Investment

Research Institute of Economy, Trade and Industry (RIETI, Tokyo)

BBL seminar, 22 January 2009

Structure of my presentation

1. What are NTBs?
2. The economics of NTBs
3. Measurement issues
4. Some empirical estimates
5. What can we do about NTBs?

1.1.   What are NTBs?

Definitions:

- Wide: OECD/MAST classification of NTBs
- Less wide definition:
  - Everything that is not a tariff or a quota
- Narrow economic definition:
  - Non-price non-quantity measures

OECD/MAST classification of NTBs

- Sanitary & phytosanitary (SPS)
- Technical barriers to trade (TBT)
- Price control measures
- Quantity control measures
- Quasi-tariff structures
- Financial measures
- Export measures
- Trade-related investment measures

1.2.   What are NTBs?

- Besides this list:
  - Services barriers
  - Public procurement barriers
  - Investment barriers

- At the border ≠ domestic barriers

2.1. The economics of NTBs

The limited view from trade economics:

- Tariff: price effect > straightforward
- In trade models: tariffs reduce welfare

- Mainstream trade literature: NTB = a tariff
  (see Chen & Matoo (2004) for an overview)
- NTBs are thus necessarily welfare decreasing
- (rare exception: see Gansland & Markusen (2001)
- Implicit assumption of protectionism
  NTB = cost, no consumer benefits

2.2.   The economics of NTBs

A wider view in welfare economics:

- Regulation to correct market distortions, internalize externalities
- NTBs = regulation: how to measure their welfare impact?

Baldwin (2000):
- Horizontal NTBs = split markets for the same product:
  Results in price increase without consumer utility increase
  Example: electric plugs, government procurement restrictions

- Vertical NTBs = split markets according to quality
  Results in price differentiation but also consumer utility increase
  Example: many ISO quality standards, food safety standards

2.3.   The economics of NTBs

- Casella (1995) makes a strong claim:
  « _harmonised standards are not a pre-condition for free trade_ »

- Often true for vertical NTBs:
  - Reflect consumer demand for standards and willingness to pay
  - Producers can adapt products to these demands

- Demand for regulation depends on economic fundamentals: preferences, endowments, incomes, etc. - differ by country
- Makes abstraction of economies of scale: also costs for consumers
- Usually not true for horizontal NTBs

- Examples: SPS, earthquake standards,

- Results in inherent heterogeneity of NTBs across countries: fact of life?
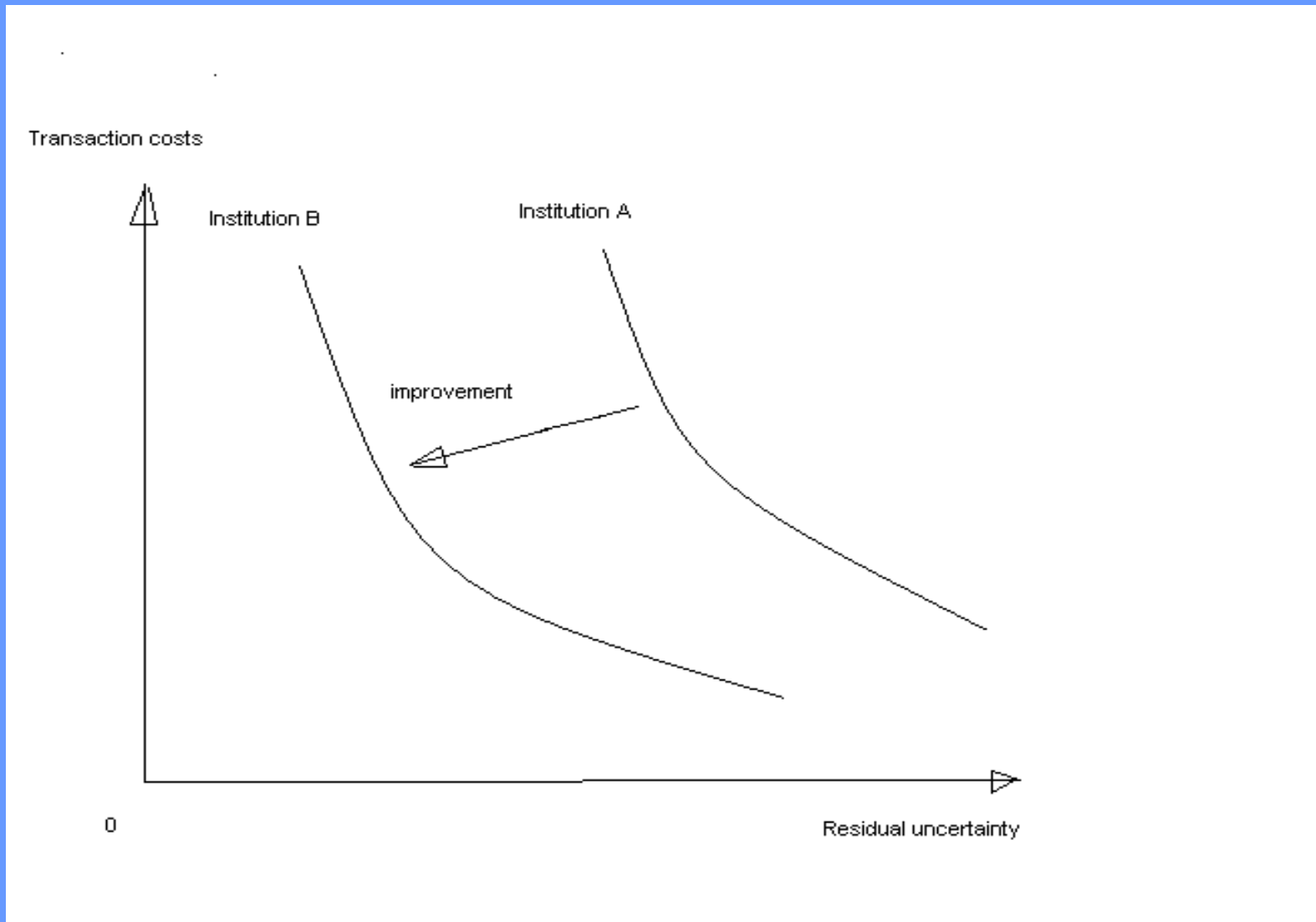
2.4. The economics of NTBs

From a welfare theory to an agency theory approach:

- Information asymmetry between buyer and seller
- Reducing asymmetry is costly: requires information
- Economic trade-off between cost & risk > see figure
- Improved regulation: reduce risk without increasing information cost

- Efficiency of regulation determines consumer benefits
  Examples: medical devices, earthquake resistant trains

Figure 1: The regulatory trade-off between cost & risk

Transaction costs

Institution B   Institution A

improvement

0   Residual uncertainty

2.5. The economics of NTBs

Improvements in regulatory architecture determine the benefits:

- Mandatory standards: quasi-vertical, only 1 segment

- Voluntary labelling: true vertical segmentation, consumer choice

- Mutual recognition agreements (MRA): reduces cost for same risk

- Supplier declaration of conformity (SDOC): transfers risk to producer

- Product quality versus process quality NTBs (PPMs)
  Ex.: ecological & organic products

- Standards versus conventions (self-enforcing): Ex.: 110-220 volts

11

2.6. The economics of NTBs

The political economy of NTBs: industries & governments

- « Exporters want regulatory harmonisation »   But do they really?
  May have more to gain from market segmentation (economies of scale versus price elasticity of demand)

- Ex.: PC keyboards, DVD regional standards

- Vertical NTBs may de facto result in horizontal segementation
  Ex.: long administrative procedures « to ensure quality »

3.1. Measurement issues

How do we measure the economic impact of NTBs?

Trade economists:

- NTB = tariff > estimate tariff equivalent of NTB
- Price and quantity methods
- Ferrantino/OECD (2004) for an overview

Welfare economists, agency theory:

- Many studies estimate domestyic costs and benefits of regulation
- Very few studies apply this to trade issues:
  Begin & Bureau (2000) apply this to SPS standards in EU

- So we remain with the trade economists…

3.2. Measurement issues

The quantity approach:

Estimate « missing trade » through gravity equations, and convert into a price/tariff equivalent

- Residual versus parametric:
  – The first overestimates, the second needs an NTB index

- Trade restrictiveness indexes:
  – Index with subjective weighting of NTB components
  – Maximizes welfare when index = zero > not plausible for vertical NTBs
  – Overall estimate, not attributable to specific NTBs > limited trade policy use

- Company-level survey-based indexes
  – Ordinal ranking of NTBs, less subjective
  – Requires large number of data points in a sector/product

3.3. Measurement issues

The price approach:

Estimate price differences in different locations and convert into quantity estimates

- – Limits to available price observations
- – Which prices: domestic, import, world markets, EXR issues
- – More suitable at detailed level of goods & services

- Fukao, Kataoka & Kuno (2003) apply price method to selected products for Japan-Korea FTA

3.4. Measurement issues

How to estimate the corresponding elasticities?

For goods:

– Take import price elasticities

For services:

– There are no import price elasticities

– Use domestic price elasticity of demand, if available?

– Use the coefficient on the services index variable in the gravity equation

4. Some empirical estimates

- Price-based estimates

- Quantity-based estimate for EU-US

- Quantity-based estimate for EU-Canada

- Compare survey & macro estimates

4.1. Some empirical estimates

A price-based comparison (Bradford & Lawrence, 2004):

Percent

	EU	US	Canada	Japan
1990	40	16	39	67
1999	35	15	17	61

Legend: ■ 1990 ■ 1999

18
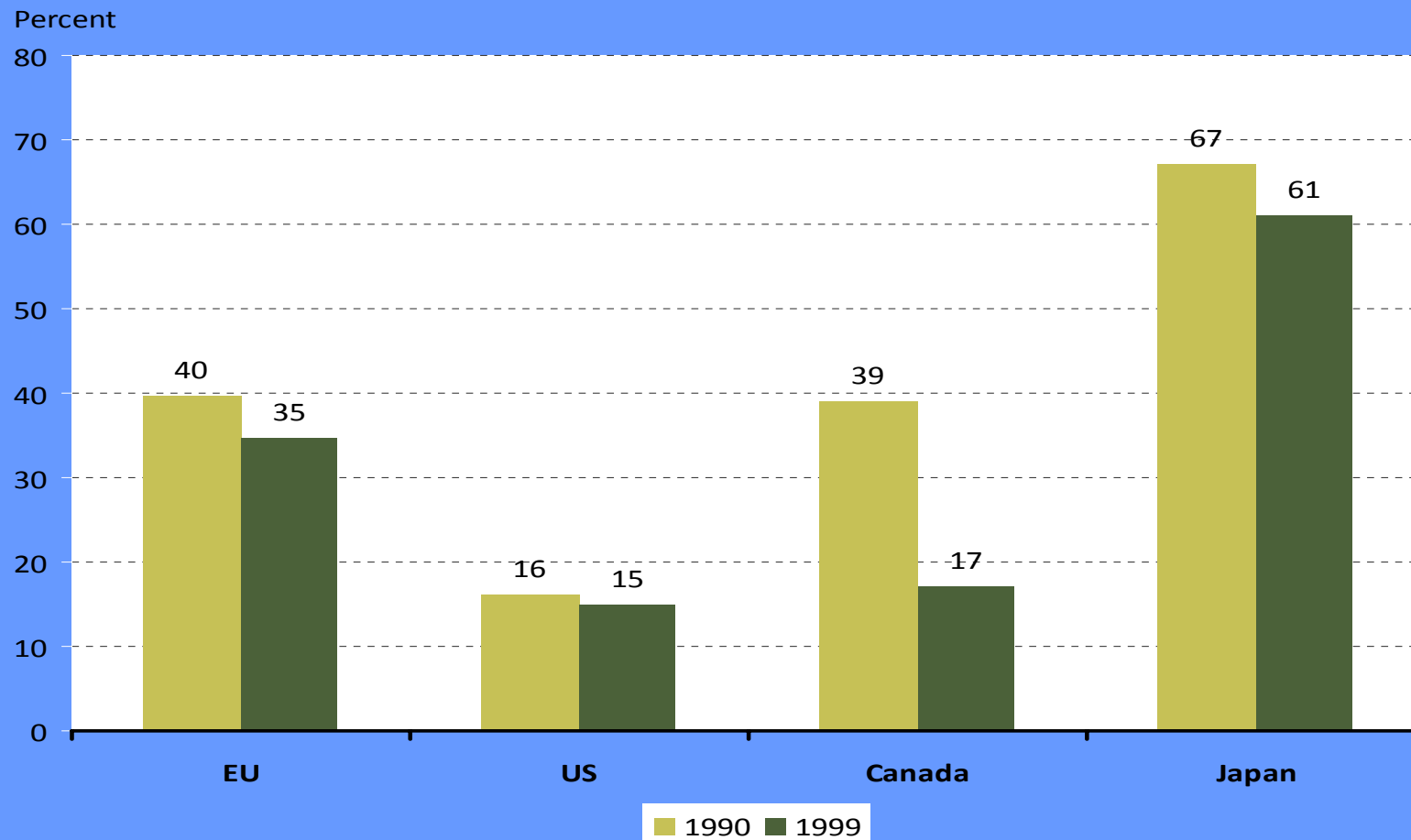
4.2. Some empirical estimates

Quantity approach, survey-based: EU & US
(Ecorys & Francois, 2009, forthcoming)

Scenario summary

	share or US exports to EU	share of EU exports to US	US tariffs against EU	EU tariffs against US	US NTBs against EU	EU NTBs against US
Agr forestry fisheries	2.4	0.7	1.8	9.1		
Other primary sectors	2.4	0.9	0.3	0.0		
Processed foods	1.5	3.9	2.8	16.7	73.3	56.8
Chemicals	14.4	15.7	1.5	1.8	19.1	18.8
Electrical machinery	7.0	2.7	0.4	0.3	14.7	12.8
Motor vehicles	3.3	11.4	2.2	7.3	26.8	25.5
Other transport equipment	9.6	3.8	0.1	1.1	19.1	18.8
Other machinery	15.6	15.1	1.2	1.4		
Metals and metal products	2.0	3.3	1.6	2.3	8.5	6.0
Wood and paper products	2.0	2.9	0.2	0.3	7.7	11.3
Other manufactures	3.3	14.1	4.3	2.7		
Water transport	0.2	0.2			8.0	8.0
Air transport	2.4	3.5			2.0	2.0
Finance	4.3	1.6			31.7	11.3
Insurance	0.9	3.5			19.1	10.8
Business services	9.8	7.6			3.9	14.9
Communications	1.0	0.8			1.7	11.7
Construction	0.4	0.2			2.5	4.6
Personal services	3.7	1.0			2.5	4.4
Other services	13.9	7.3				
	100.0	100.0	1.5	1.4	12.1	9.8

4.3. Some empirical estimates

Quantity approach to services barriers: EU and Canada

(Copenhagen Economics, Francois, 2008)

TABLE 4: Summary of barrier estimates from (mapped to model sectors)

model sector	Canada			EU27		
	index	total % volume effect	reduction from full NTB elimination	index	total % volume effect	reduction from full NTB elimination
Transport	0.413	64.1	18.8	0.242	52.1	15.3
Trade	0.150	43.1	10.8	0.043	39.0	9.7
Communications	0.525	..	..	0.111	..	..
Financial services	0.225	27.0	7.9	0.107	41.5	12.2
Insurance	0.200	68.4	17.1	0.102	48.6	12.2
Business services	0.150	45.9	11.5	0.139	45.2	11.3
Consumer services	0.15	..	..	0.043	..	..
Other services	0.228	62.9	15.7	0.122	47.6	11.9
Total Services	0.267	66.5	16.6	0.137	48.6	12.1

note: calculations are based on trade elasticities used in CGE model
corresponding trade price elasticities are (3.4, 4, 3.3, 3.4, 4, 4, 3.7, 4, 4)

5.1. What can we do about NTBs?

Domestic NTBs:

- Usually <u>vertical</u> NTBs: consumer impact

- Possible solutions:
    - Bilateral regulatory convergence
    - Bilateral mutual recognition
    - Mutilateral (international) standards

- Domestic NTBs are evasive, difficult to tackle in trade agreements
- Inherent regulatory heterogeneity

5.2. What can we do about NTBs?

At the border barriers:

- Mostly <u>horizontal</u> NTBs, no consumer benefits, only costs
- Though sometimes vertical NTBs have a « horizontal dimension »
  Ex.: administrative procedures and delays, lack of transparency
- Often discriminatory in GATT/GATS terms

- Examples: services market access barriers, barriers to investment, GMO foods

- Trade negotiations can do this: Prisoner's Dilemma set-up applies
- But border barriers can sometimes be replaced by domestic barriers