

*European Union trade
and non-tariff measures*

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Measurement of trade impacts of non-tariff measures

- Business surveys of costs associated with non-tariff measures
- Wedge between domestic and world market prices
- Case studies of particular measures in individual countries
- Comparison of trade potential under barrier-free trade with actual trade

Trade potential - underlying idea

- Trade within EU is virtually free of NTMs since completion of Single Market in 1992
- Hence, trade between EU members should be more intensive than between EU and non-EU countries
- Differences in trade intensity might allow to quantify the impact of NTMs

Analytical approach

- Gravity model, calibrated on intra-EU trade, to predict extra-EU trade
- Calibrate GTAP model to replicate trade potential, then recalibrate it (with new set of parameters on consumer preferences) to reproduce actual trade flows and provide estimates of tariff equivalents of NTMs
- Use information of prevalence of different types of NTMs in different countries and sectors from NTM-inventory to econometrically establish a ranking of NTMs according to their trade impact

Gravity model

- Basic gravity model (economic size, distance, overseas-dummy)
- Estimated at the sectoral level (10 sectors)
- Germany's exports to other EU member countries and non-EU OECD countries

Gravity model - results and problems

- Results:
 - Expected signs for size and distance variables
 - Statistically significant for size and distance variables
- Problems:
 - Out of sample estimation
 - Comparative advantage/disadvantage in sectors

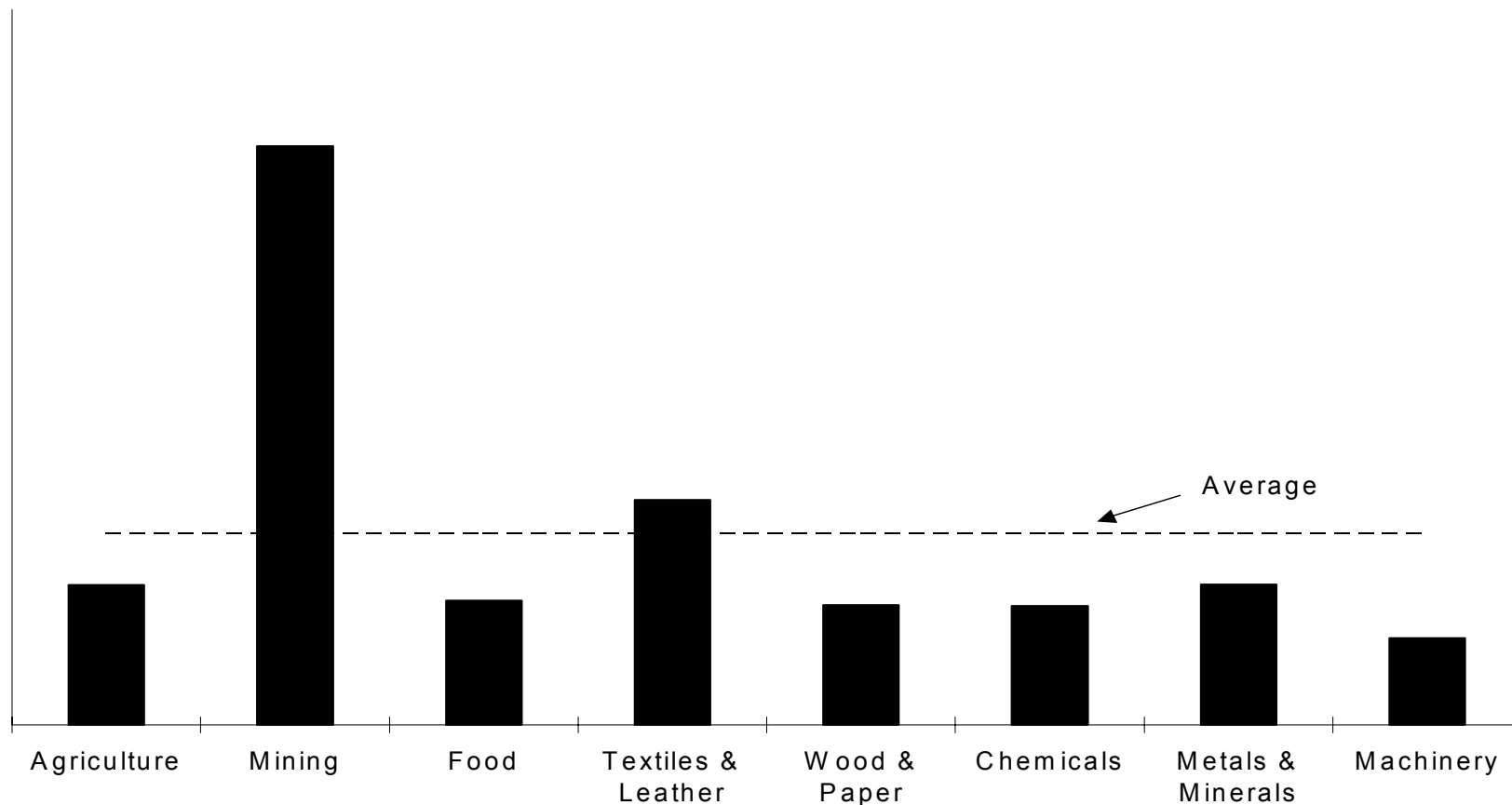
Derivation of tariff equivalents

- GTAP 10 x 10 aggregation (regions: DEU, 8 OECD countries, ROW)
- Integration of potential export volumes into the GTAP database
- Recalibration of the model
- Second calibration with new set of parameters on consumer preferences to reproduce initial trade
- Model gives estimate of overall protection
- Subtracting out of tariff protection gives tariff equivalents of aggregate NTMs

Tariff equivalents - results and problems

- Results:
 - Method technically feasible
 - Above average NTM-protection in mining and textiles sectors
- Problems:
 - Estimation errors from first step (gravity model) are carried through
 - Tariff equivalents of NTMs not always appropriate, because often not generating any government revenue

Tariff equivalents of aggregate non-tariff protection



Ranking of NTMs

- Information on prevalence of NTMs from EU Market Access database
 - Business complaints about NTMs (including “behind the border barriers”)
 - Information on type of NTM, sector of occurrence, country of occurrence
 - Adjustments if a complaint concerns several NTMs or several sectors
- Relating aggregate tariff equivalents of NTMs to number of complaints about different types of NTMs in sectors/countries

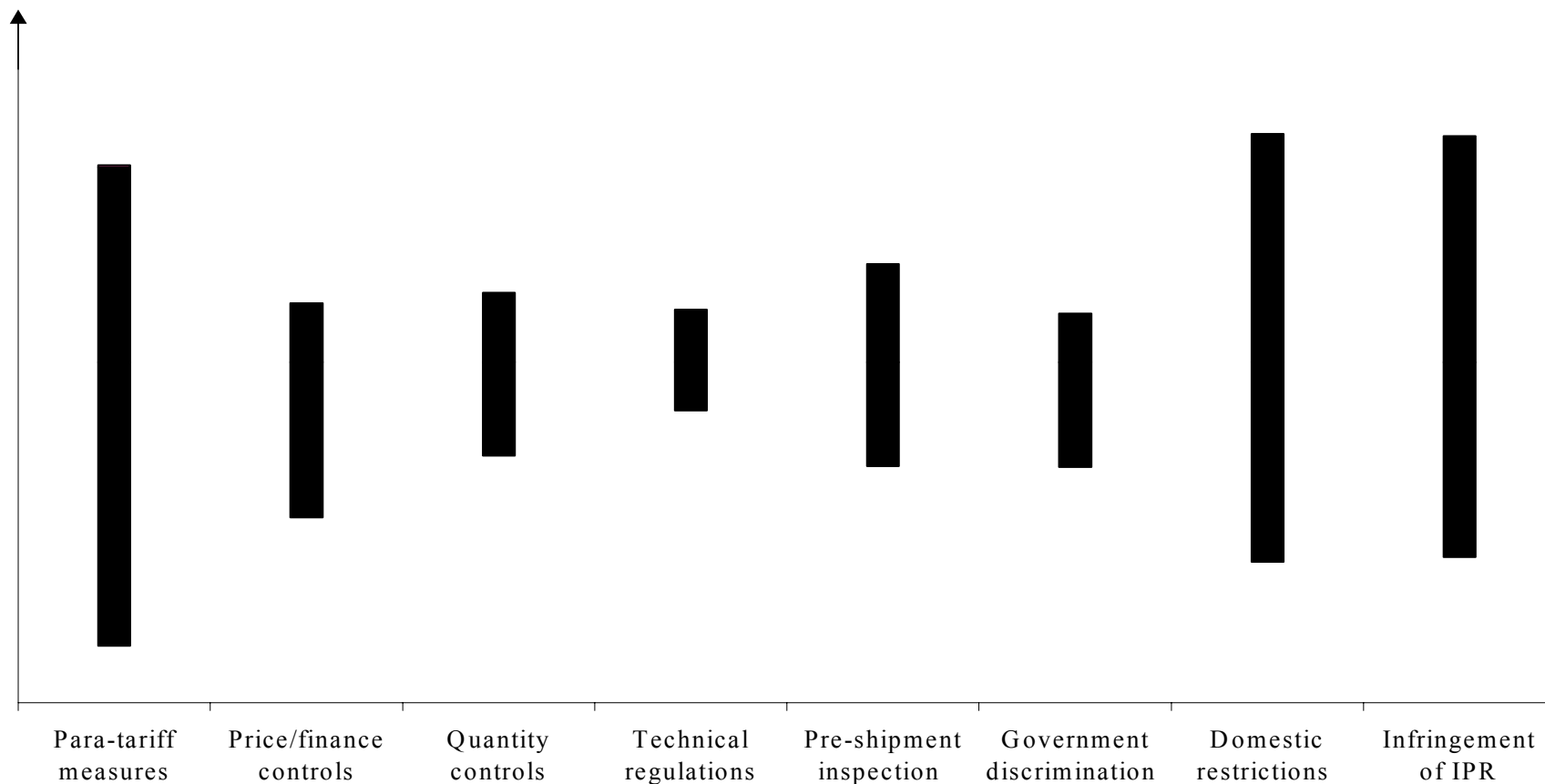
Business complaints about NTMs in selected OECD countries

	Agriculture	Mining	Food	Textiles & Leather	Wood & Paper	Chemicals	Metals & Minerals	Machinery	All goods
Para-tariff measures	1	1	7	2	0	0	0	11	24
Price/finance controls	4	1	13	1	1	6	2	2	29
Quantity controls	23	3	22	7	1	21	4	12	93
Technical regulations	25	0	29	6	4	11	4	42	121
Pre-shipment inspection	8	0	22	13	7	6	3	16	76
Govt discrimination	8	1	4	2	0	5	4	38	63
Domestic restrictions	2	0	5	3	0	5	0	7	23
Infringement of IPR	2	0	3	1	0	5	1	5	16
Total	73	6	106	36	13	59	17	133	442

NTM ranking - results and problems

- Results:
 - Large standard errors for regression
 - Wide confidence intervals do not make it possible to clearly rank NTMs
- Problems:
 - Inconsistency of DEU-based gravity model estimation and EU-based NTM complaints
 - EU market access database not established with a view to quantitative NTM analysis
 - Substantial variety of NTMs within a given category

Tariff equivalents of different types of NTMs



Further work

- Improvement of gravity model specification and estimation
- Modeling NTMs in terms of unobserved trade costs (Hertel/Walmsley/Ikatura, 2001) rather than as tariff equivalents
- Exploration of alternative sources on NTM prevalence