

Lessons from Europe's internal market for TTIP

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LEARNING FROM EXISTING DEEP AGREEMENTS

Existing deep agreements (PTAs)

- EU customs union and single market most successful PTA in the world
- NAFTA
- Bilateral agreements between EU and US with third countries

Experience relevant for TTIP

- Consistent estimation of matrix of comprehensive trade costs
- Ex post effects to define ex ante scenario
- Assumption: TTIP will be as effective as existing deep PTAs

APPLYING NEW MODELING TOOLS

New quantitative trade analysis models

- Eaton & Kortum (2002), Technology, Geography and Trade, *Econometrica*
- Survey articles (forthcoming in Handbook of International Economics, Vol 4)
 - Costinot and Rodriguez-Clare (2013), Trade Theory with Numbers: Quantifying the Consequences of Globalization
 - Head and Mayer (2013), Gravity Equations: Workhorse, Toolkit and Cookbook
- Ongoing research at ifo on integration of unemployment, firm-level heterogeneity, NTBs, ...
 - Heid and Larch (2013), International Trade and Unemployment: A Quantitative Framework
 - Felbermayr et al. (2013), Iceberg versus Tariffs: A Quantitative Perspective on the Gains from Trade

GRAVITY WITH LABOR MARKET FRICTIONS

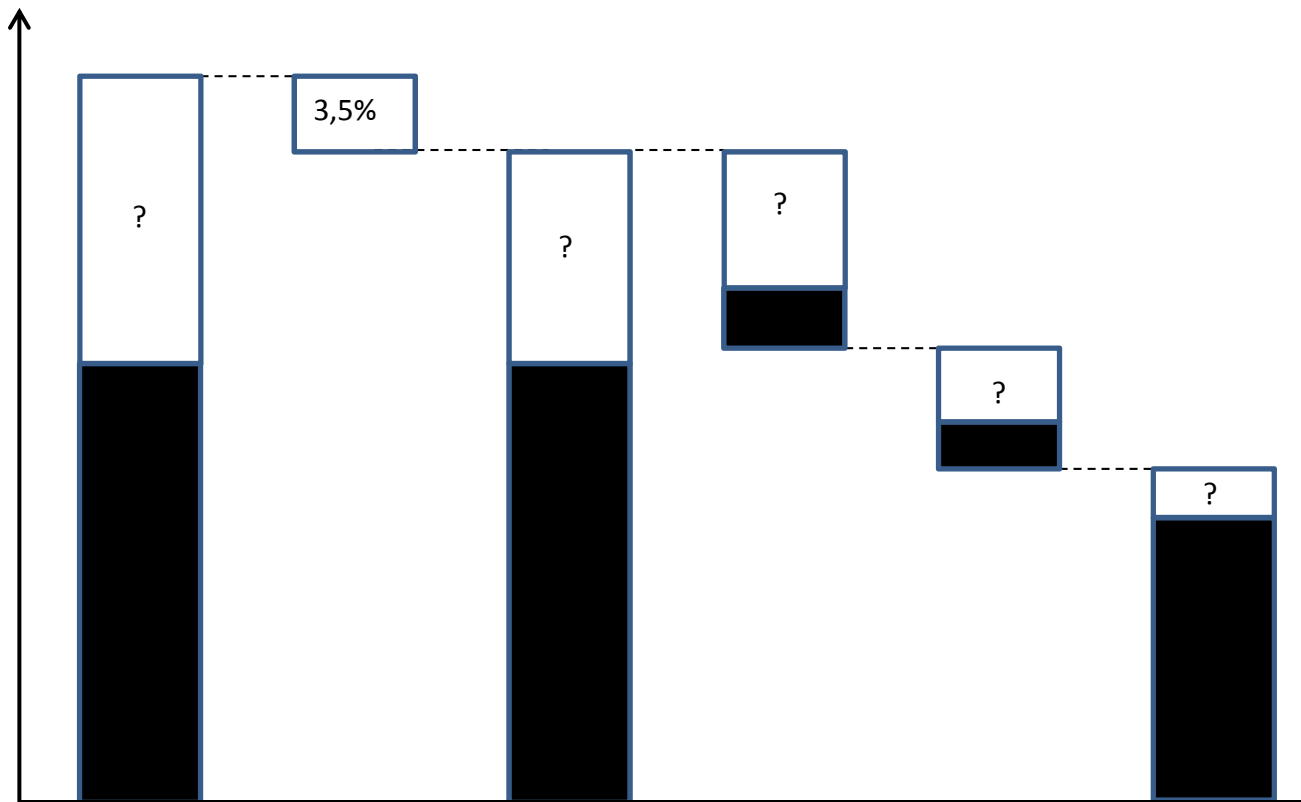
$$z_{ij} \equiv \frac{x_{ij}}{y_i \tilde{y}_j} = \exp \left(k - (1 - \sigma) \ln t_{ij} - \ln \tilde{\Pi}_i^{1-\sigma} - \ln \tilde{P}_j^{1-\sigma} + \varepsilon_{ij} \right)$$

$$t_{ij}^{1-\sigma} = \exp \left(\beta_1 DIST_{ij} + \beta_2 LANG_{ij} + \beta_3 BORD_{ij} + \dots + \delta PTA_{ij} \right)$$

- A partial equilibrium representation of a full-scale GE model with frictional unemployment
- Frictions on labor markets do not matter for estimation of trade costs t_{ij}
- GDPs (trade deficit/surplus adjusted)
- Multilateral resistance terms are themselves functions of GDPs and trade costs
- Welfare changes: $\hat{W}_j = \hat{e}_j \hat{\lambda}_{jj}^{\frac{1}{1-\sigma}}$

Source: Heid & Larch (2013).

TRADE COSTS DECOMPOSITION AND PTA EFFECT



Trade costs,
total

Tariffs

Non-tariff
barriers
(NTBs),
broad def.

NTBs,
narrow def.

Other
policies

„Natural“
Barriers

STRUCTURAL ESTIMATION

- We use the structural two-stage estimation procedure of Egger, Larch, Staub, Winkelmann (2011).
 - Interest lies in the unbiased and consistent estimation of the conditional expectation of bilateral trade flows.
 - Two parts:
 - Conditional expectation of positive trade flows.
Gravity equation following Santos Silva and Tenreyro (2006, PPML).
 - Probability that two countries trade.
Probit model (Helpman, Melitz, and Rubinstein (2008)).
- => two-part model.

STRUCTURAL ESTIMATION

- We account for potential endogeneity of our variable capturing preferential trade agreements (PTA):
 - not a random selection of countries that conclude PTA!
- Controlling for endogeneity of PTA has been shown to lead to much larger effects
(e.g., Baier and Bergstrand (2009) and Magee (2003) estimate effects of 300% and 800% respectively).

STRUCTURAL ESTIMATION

- We follow Baier and Bergstrand (2004) and specify a probit to calculate the probability whether two countries conclude a PTA or not.
- We use the approach of Terza (1998) to control for endogeneity in the conditional expectation of positive trade flows.
- We also control for endogeneity in the probit for positive trade flows by estimating a bivariate probit.

WHY STRUCTURAL ESTIMATION ?

- General equilibrium effects (SUTVA violated and therefore micro-econometric methods problematic).
- Interdependencies: direct and indirect effects.
- Parameters are obtained from the same data as used for the counterfactual analysis.
- Parameters are actually estimated and not merely calibrated.
- Baseline reproduces observed data.
- Welfare effects.

PARTIAL EQUILIBRIUM EFFECTS OF PTAS

not consistent with general equilibrium

Model (1)	Total (2)	Decomposition	
		Extensive margin (3)	Intensive margin (4)
Endogenous PHA			
One-part	214,90%	-	-
Two-part	235,02%	-0,60%	235,62%
Two-part with $\hat{\eta}_{ij}$ –Term	255,12%	-0,63%	255,75%
Exogenous PHA			
One-part	74,15%	-	-
Two-part	67,92%	19,59%	48,33%
Two-part with $\hat{\eta}_{ij}$ –Term	66,98%	19,52%	47,45%

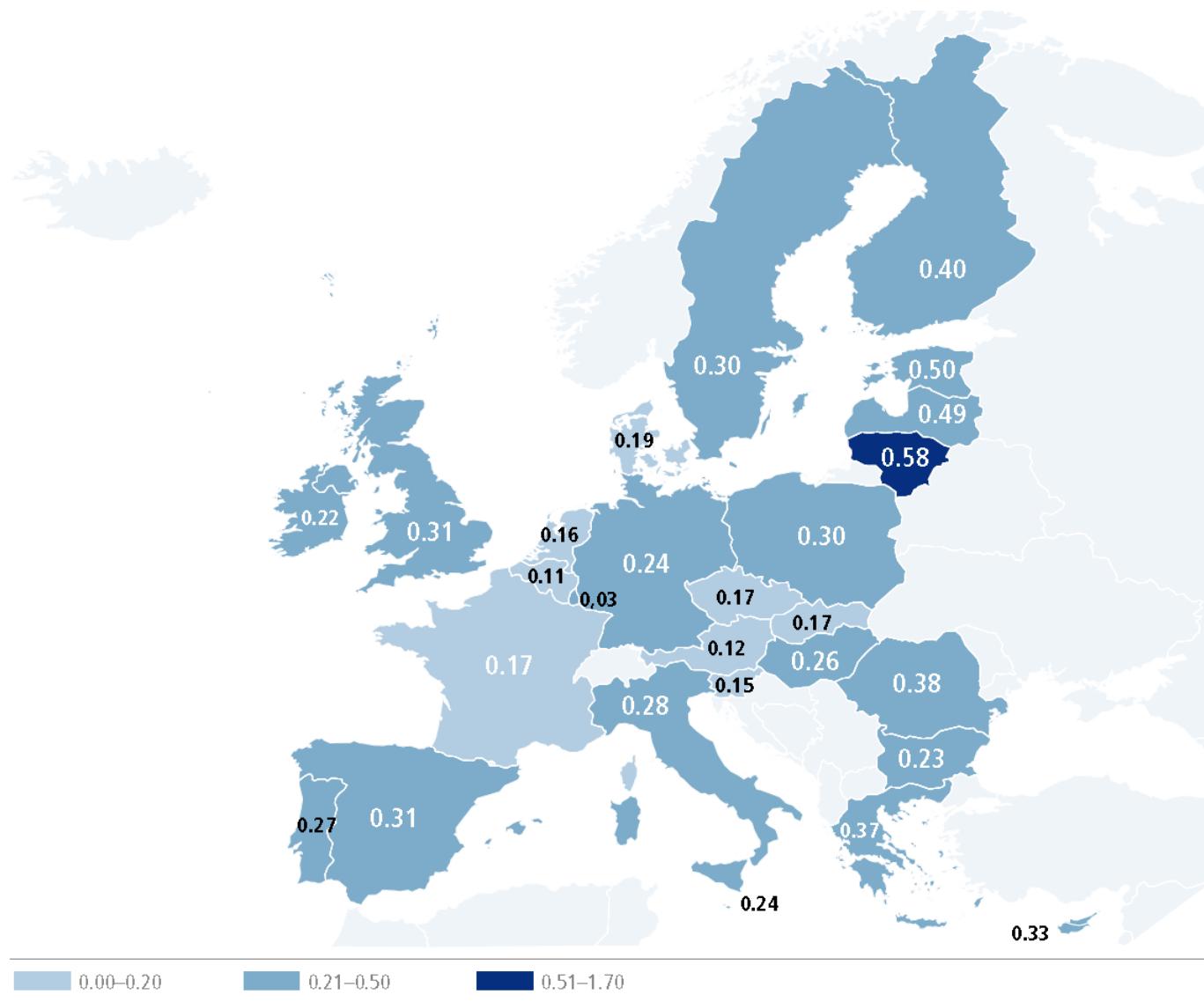
TRADE EFFECTS OF A COMPREHENSIVE TRADE AGREEMENT

		Two-part Model			
		Exogenous PTA		Endogenous PTA	
[A]	Average change(%) of Exports between TAFTA and non-TAFTA members	19,4	20,42	73,49	78,8
[B]	ΔX_{ij} between TAFTA-members%:				
	Average	23,4332	23,7977	86,9935	92,8178
	Standard Deviation	2,331	2,8203	9,7117	11,0082
	Min.	19,6836	19,0202	61,3477	61,6865
	Max.	27,5371	31,1332	103,9224	110,1025
[C]	ΔX_{ij} other countries (%):				
	Average	1,3858	0,9956	3,3687	3,3559
	Standard Deviation	4,6302	4,4204	18,9304	19,67
	Min.	-13,0773	-14,4519	-100	-100
	Max.	20,3398	20,0085	91,3227	97,7225

TRADE EFFECTS (SELECTED COUNTRIES)

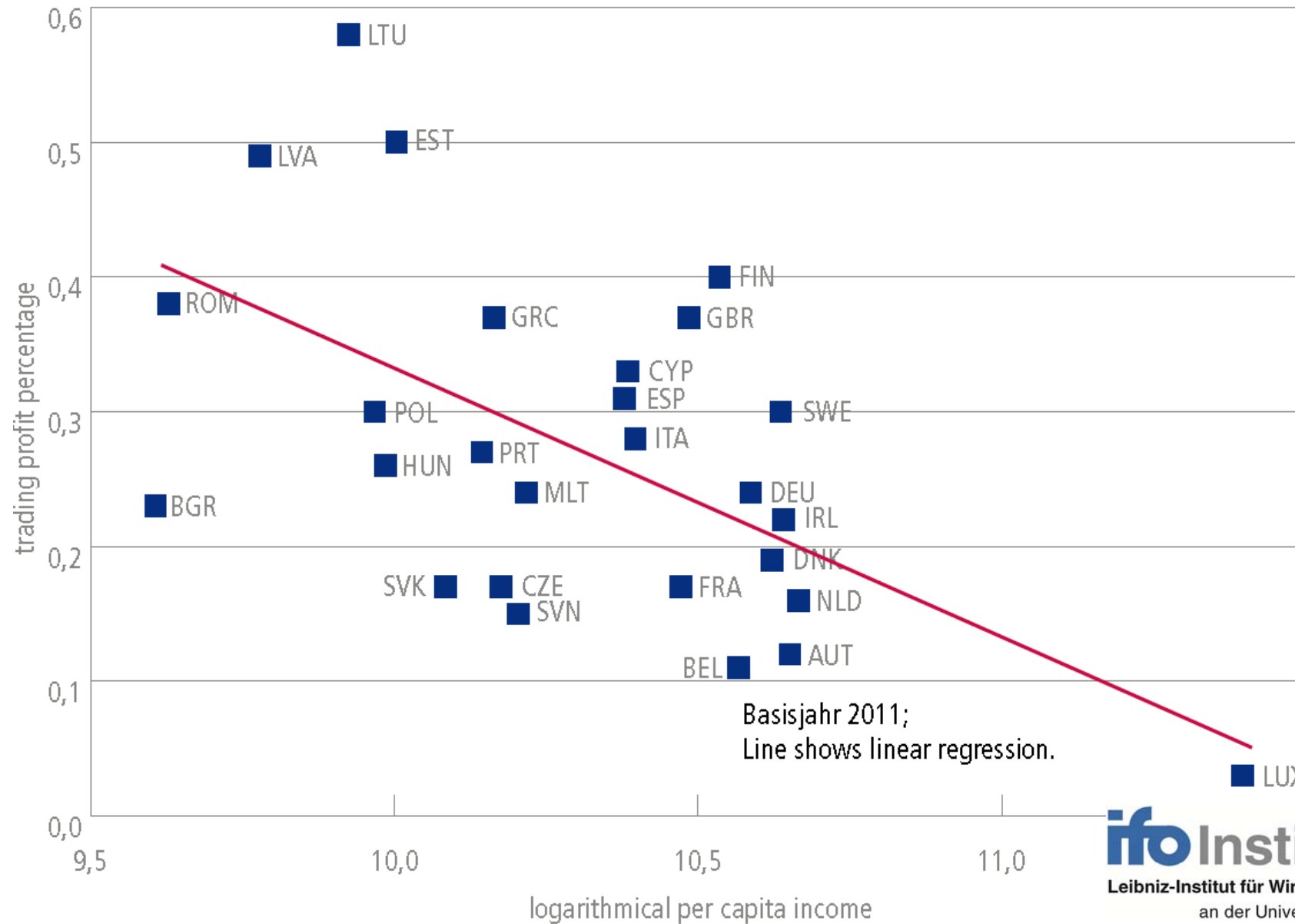
Exporter	Change in exports in % for importer-qauntiles		
	0,025	0,5	0,975
AUS	0,00	37,24	62,22
AUT	-29,30	0,00	18,35
BEL	-31,81	-3,26	18,51
BRA	-18,89	12,40	38,53
CAN	0,00	52,37	83,91
CHN	-20,39	11,56	33,79
DEU	-34,14	-6,92	13,10
FRA	-29,10	0,00	26,83
GBR	-44,69	-22,78	0,00
GRC	-35,21	-7,62	8,46
IND	-26,73	15,22	39,49
USA	-34,00	-25,39	105,55

TTIP: WELFARE EFFECTS OF TARIFF LIBERALIZATION

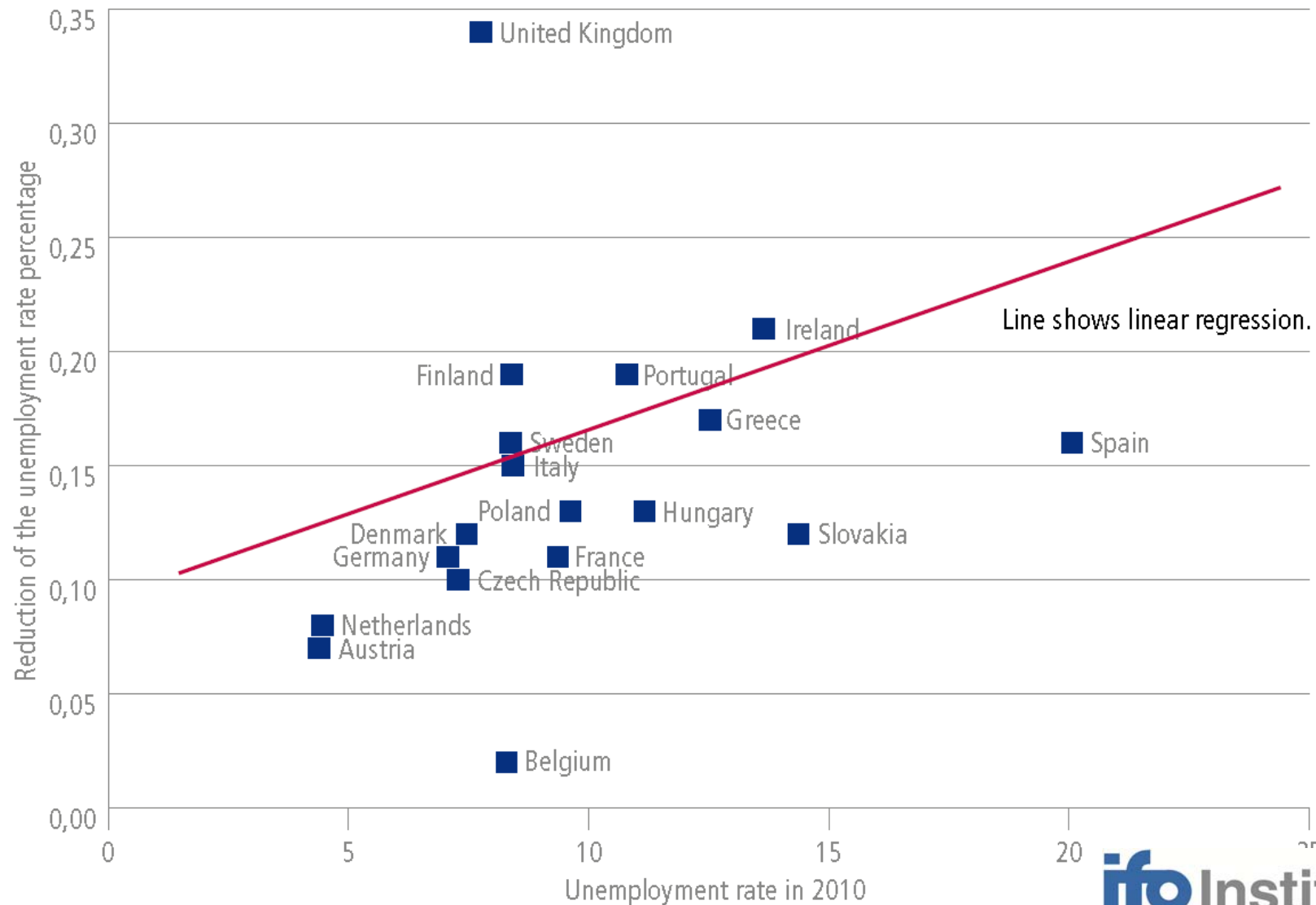


Source: Ifo study for BMWi, 2013.

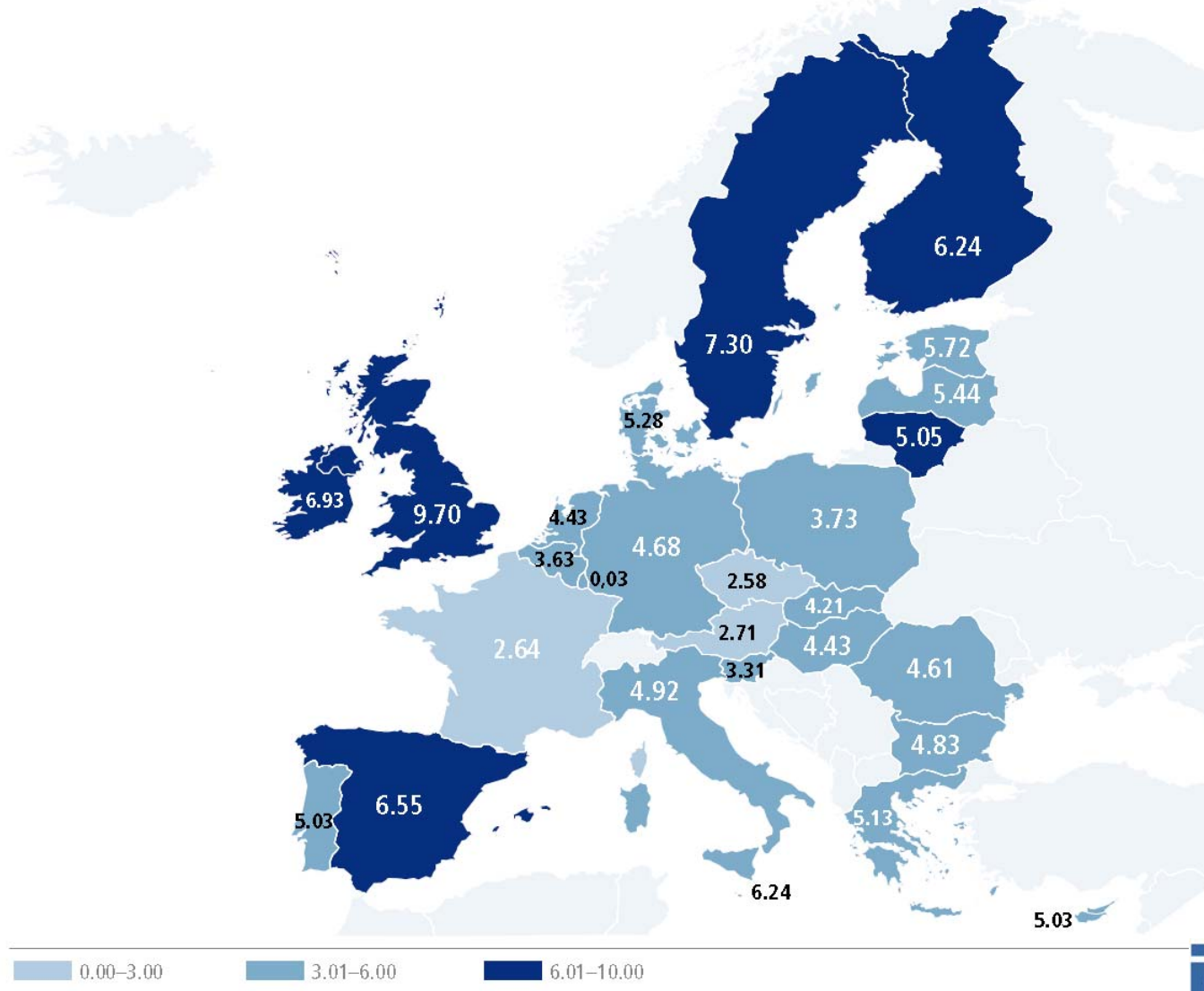
GAINS FROM TTIP AND INITIAL PER CAPITA INCOME



TTIP: EFFECTS ON UNEMPLOYMENT RATES

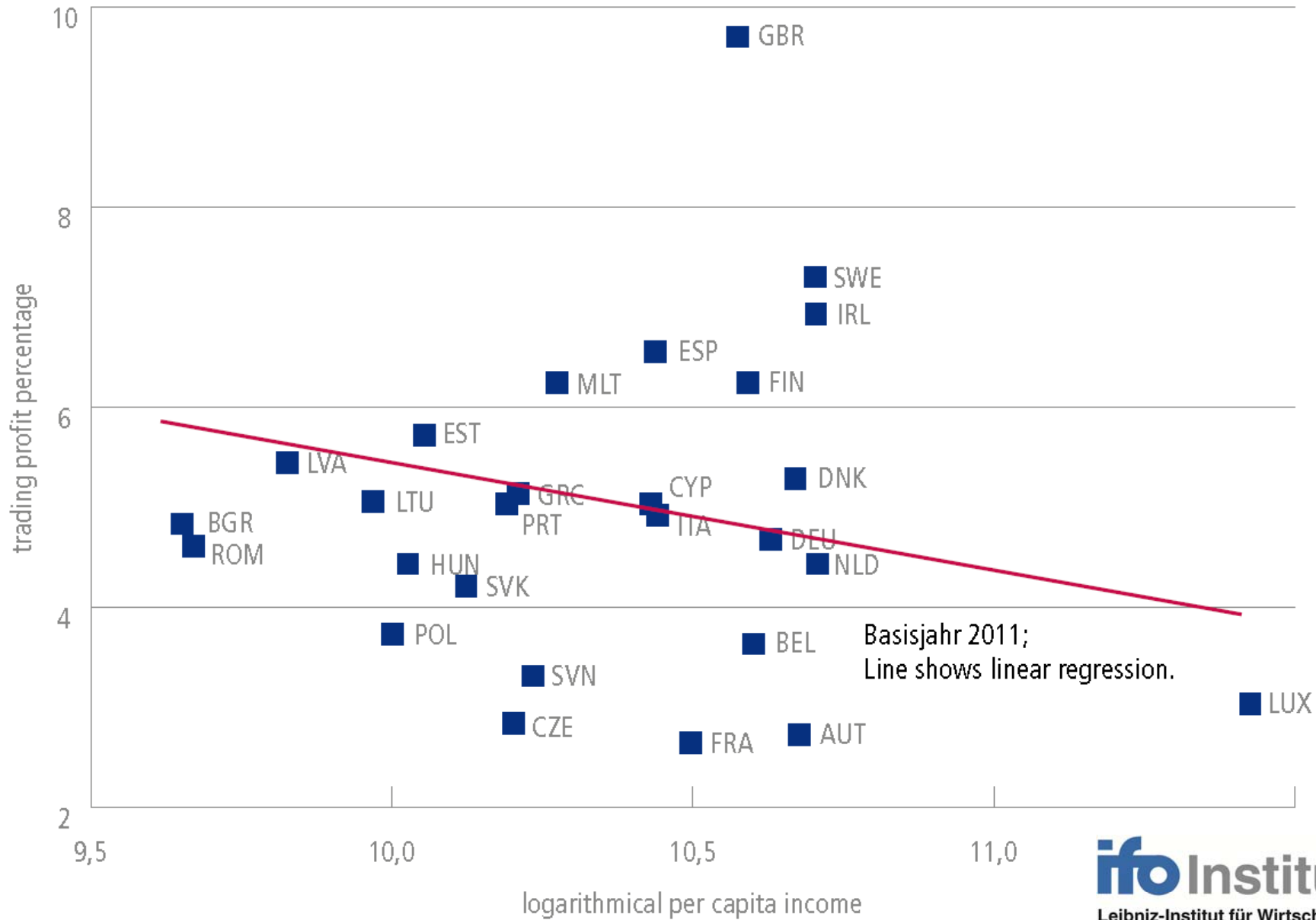


TTIP: WELFARE EFFECTS OF DEEP LIBERALIZATION

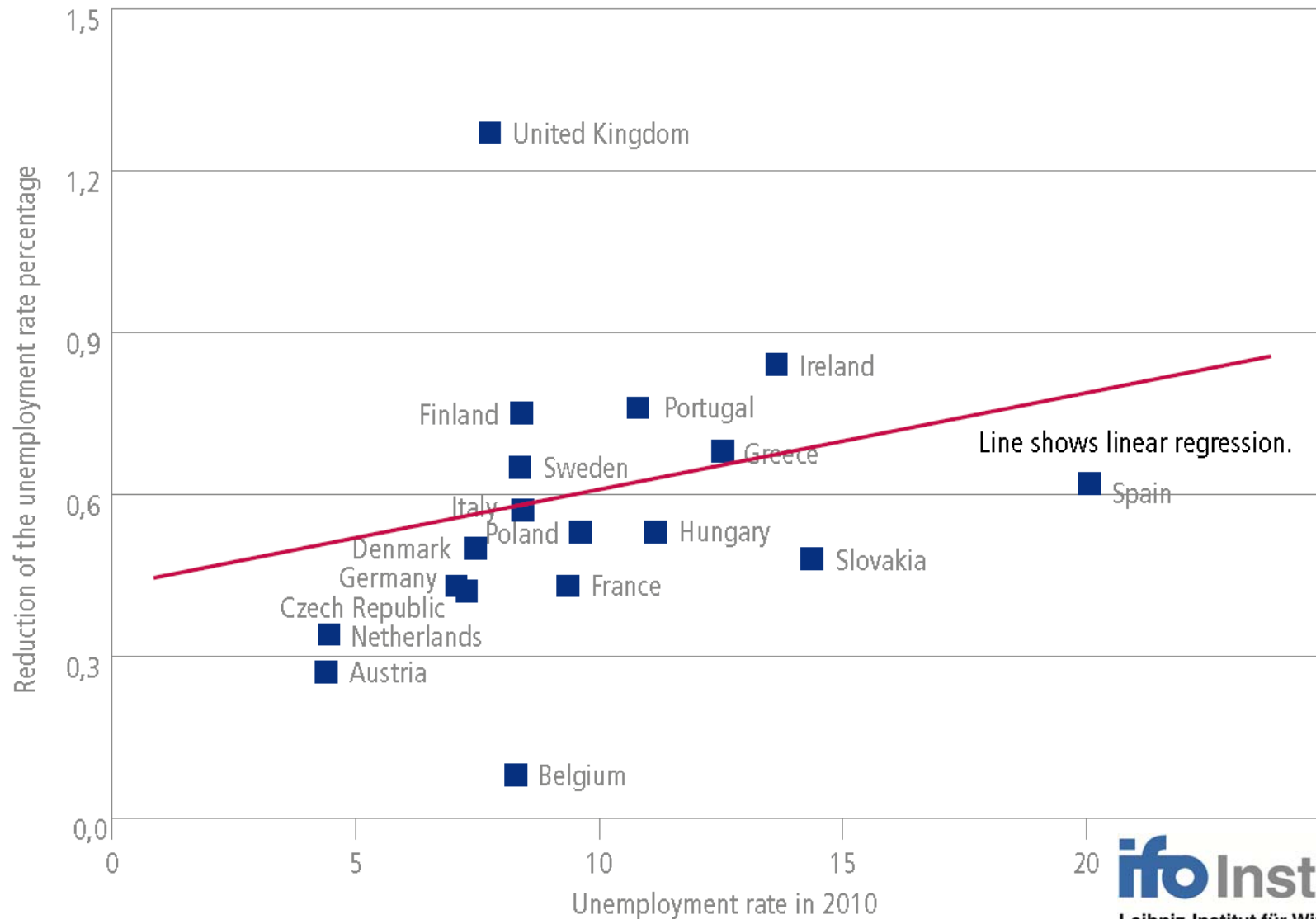


Source: Ifo study for BMWi, 2013.

GAINS FROM TTIP AND INITIAL PER CAPITA INCOME



TTIP: EFFECTS ON UNEMPLOYMENT RATES



LESSONS FROM EXISTING DEEP AGREEMENTS FOR TTIP

- Without “single market elements” (NTB reform) only minor welfare gains
- Deep liberalization can unlock major benefits in all countries
 - Resource savings due to lower real trade costs
 - Rectangular gains vastly dominate triangular ones
 - Magnification of these effects due to within-industry reallocation effects and unemployment reduction
- Within EU trade frictions key for understanding TTIP effects
- Gains are larger for countries with high multilateral trade barriers and relatively small home markets