Complex Europe:
Quantifying the Cost of Disintegration
Tables & Figures

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Figure 1: Europe: Overlapping Integration Agreements

Note: The Euro icons mark whether a country is a member of the Eurozone. Data as of December 2020.

Table 1: EU Integration Steps and Bilateral Imports (2000 - 2014)

Dep. var.: Bilateral imports

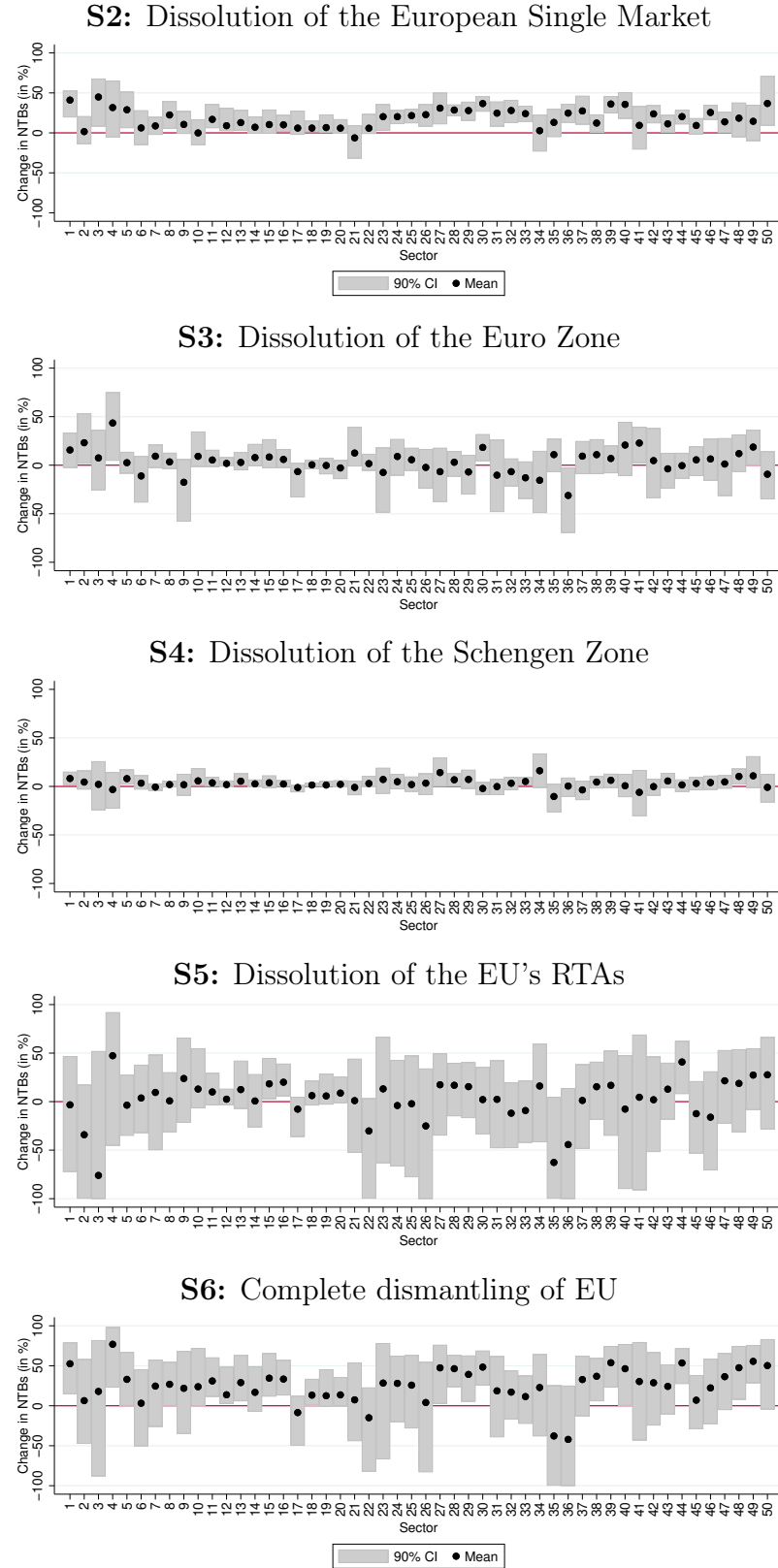| Sector description	Sector	Single Market	Euro	Schengen	EU-KOR PTA	EU PTAs	Other RTAs
Crops & Animals	1	0.58***	0.20	0.09**	0.05	0.33	-0.02
Forestry & Logging	2	-0.02	0.47*	0.08	-0.15	0.57**	-0.23
Fishing & Aquaculture	3	0.72**	0.12	0.03	-0.17	0.49	-0.24
Mining & Quarrying	4	0.50	0.75*	-0.03	1.72*	0.18	-0.46*
Food, Beverages & Tabacco	5	0.50***	0.05	0.13**	-0.07	0.29*	-0.00
Textiles, Apparel,Leather	6	0.09	-0.12	0.04	0.09	0.62***	-0.01
Wood & Cork	7	0.10	0.11	-0.01	0.27	0.24	-0.11
Paper	8	0.35***	0.05	0.03	0.15	0.01	-0.14
Recorded Media Reproduction	9	0.15	-0.20	0.02	0.71	-0.06	-0.21
Coke, Refined Petroleum	10	-0.01	0.26	0.15**	0.52	0.02	-0.12
Chemicals	11	0.38***	0.12	0.08*	0.23*	0.25	0.00
Pharmaceuticals	12	0.56***	0.10	0.12	-0.06	0.40*	0.16
Rubber & Plastics	13	0.25**	0.06	0.10***	0.12	0.38**	0.14
Other non-Metallic Mineral	14	0.11	0.14	0.04	-0.06	0.41**	0.07
Basic Metals	15	0.22	0.17	0.07	0.24*	0.51**	0.15
Fabricated Metal	16	0.17*	0.10	0.04	0.23**	0.36**	0.12*
Electronics & Optical Products	17	0.15	-0.15	-0.03	-0.22	0.41*	-0.01
Electrical Equipment	18	0.26**	0.02	0.06*	0.17	0.54***	0.09
Machinery & Equipment	19	0.18*	-0.01	0.04	0.07	0.42**	0.05
Motor Vehicles	20	0.23	-0.10	0.09	0.19	0.61**	0.16
Other Transport Equipment	21	-0.10	0.28	-0.02	0.15	0.52*	-0.07
Furniture & Other Manufacturing	22	0.12	0.04	0.07	-0.51	0.12	-0.14
Electricity & Gas	23	0.38*	-0.09	0.13	0.35	0.54	0.08
Water Supply	24	0.37***	0.16	0.08	0.31	0.07	-0.30
Sewerage & Waste	25	0.40***	0.10	0.03	-0.06	0.42	0.14
Construction	26	0.43**	-0.03	0.06	-0.17	0.67*	-0.08
Trade & Repair of Motor Vehicles	27	0.63***	-0.08	0.26	0.47	0.17	-0.09
Wholesale Trade	28	0.55***	0.06	0.12*	0.31	0.56**	0.02
Retail Trade	29	0.54***	-0.10	0.12	0.24	0.44**	0.07
Land Transport	30	0.75***	0.34**	-0.03	0.28	0.64***	-0.21
Water Transport	31	0.47**	-0.12	-0.00	0.26	1.13**	-0.16
Air Transport	32	0.54**	-0.10	0.05	0.09	0.53*	-0.25
Aux. Transportation Services	33	0.45***	-0.19	0.09**	0.13	0.54***	-0.25
Postal and Courier	34	0.06	-0.21	0.30	0.10	0.78***	0.30
Accomodation and Food	35	0.24	0.20	-0.15	-0.40	0.43	-0.31
Publishing	36	0.47***	-0.42*	0.01	-0.17	-0.01	-0.33
Media Services	37	0.54**	0.17	-0.05	0.14	0.05	-0.06
Telecommunications	38	0.22*	0.20	0.08	0.46*	0.51**	-0.16
Computer & Information Services	39	0.73***	0.12	0.11	0.63	0.26	-0.25
Financial Services	40	0.73***	0.41	0.02	0.25	0.47	-0.24
Insurance	41	0.19	0.44*	-0.08	0.49	0.56	-0.19
Real Estate	42	0.45***	0.12	-0.00	0.24	0.53	-0.13
Legal and Accounting	43	0.20*	-0.05	0.09	0.20	0.35*	0.06
Business Services	44	0.37***	-0.00	0.03	0.52**	0.73***	0.40
Research and Development	45	0.16	0.10	0.05	-0.15	0.42*	-0.00
Admin. & Support Services	46	0.48***	0.12	0.07	-0.12	0.70**	-0.06
Public & Social Services	47	0.25	0.05	0.08	0.33	0.21	0.12
Education	48	0.35	0.22	0.18**	0.48	0.34	-0.06
Human Health and Social Work	49	0.28	0.35	0.20	0.69**	0.31	-0.12
Other Serivces, Households	50	0.83**	-0.13	-0.01	0.40	0.42	0.27

Coefficient averages from 1000 bootstraps of the sectoral gravity equation, estimated under the constraint that $1/\theta \geq 0$ with a Poisson Pseudo Maximum Likelihood (PPML) estimator. ***, **, * denote significance at the 1%, 5%, 10% level, respectively, according to the bootstrapped distribution of the coefficients. We bootstrap clusters (country pairs) rather than observations to account for correlation of errors within pairs.

Figure 2: Averages Sectoral EU MFN-Tariffs
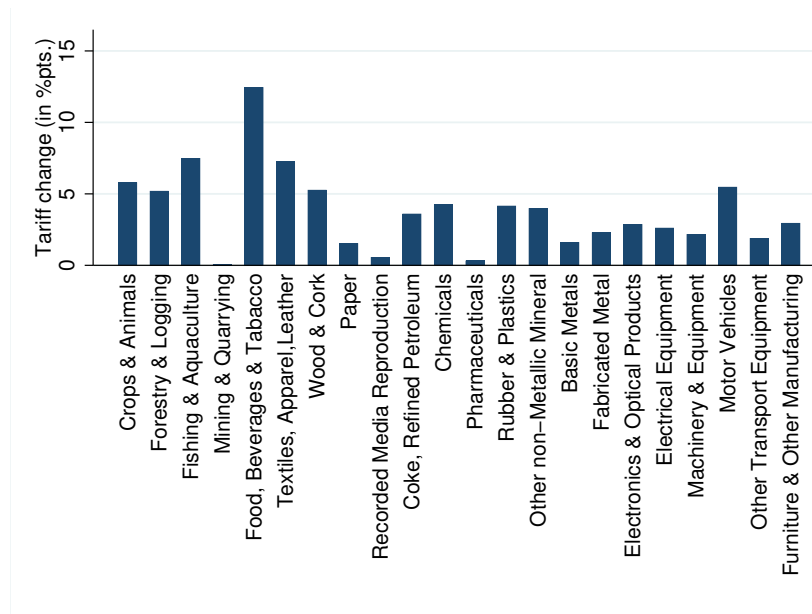
Note: Trade-weighted averages of sectoral bilateral tariffs of the product-level MFN tariffs imposed by the EU in 2014.

Figure 3: Effects of Disintegration on Trade Costs

S2: Dissolution of the European Single Market

S3: Dissolution of the Euro Zone

S4: Dissolution of the Schengen Zone

S5: Dissolution of the EU's RTAs

**S6:** Complete dismantling of EU

Note: Figures show the average increase in trade costs (as valorem tariff equivalents) by sector that would result from undoing the different integration steps. The estimates are based on the gravity estimates of policy measures and trade elasticities reported in Tables **??** and **??**. Bootstrapped 90% confidence intervals.

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Figure 4: Relative Wage Adjustments in Full Collapse Scenario
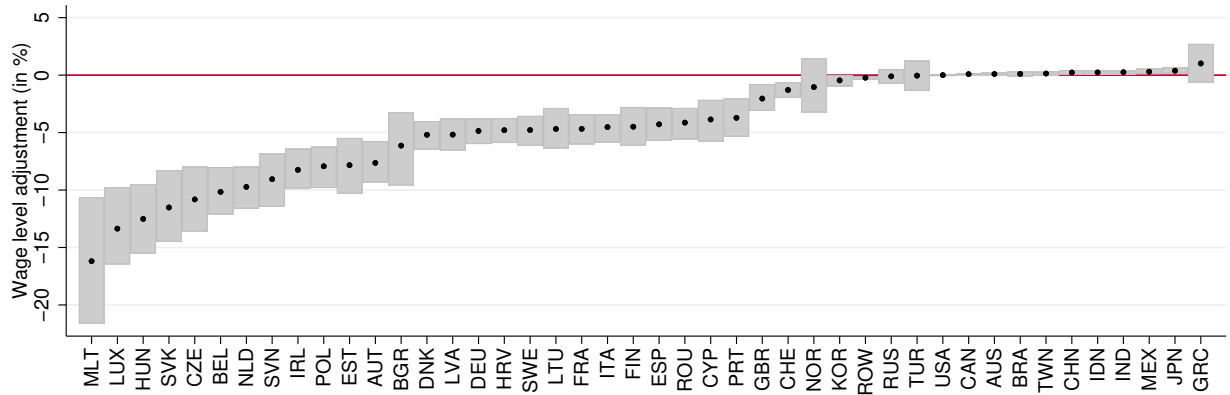
Note: The figure shows wage changes relative to the U.S. Grey bars indicate bootstrapped 90% confidence intervals.

Figure 5: Change in Real Consumption in % for Various Scenarios
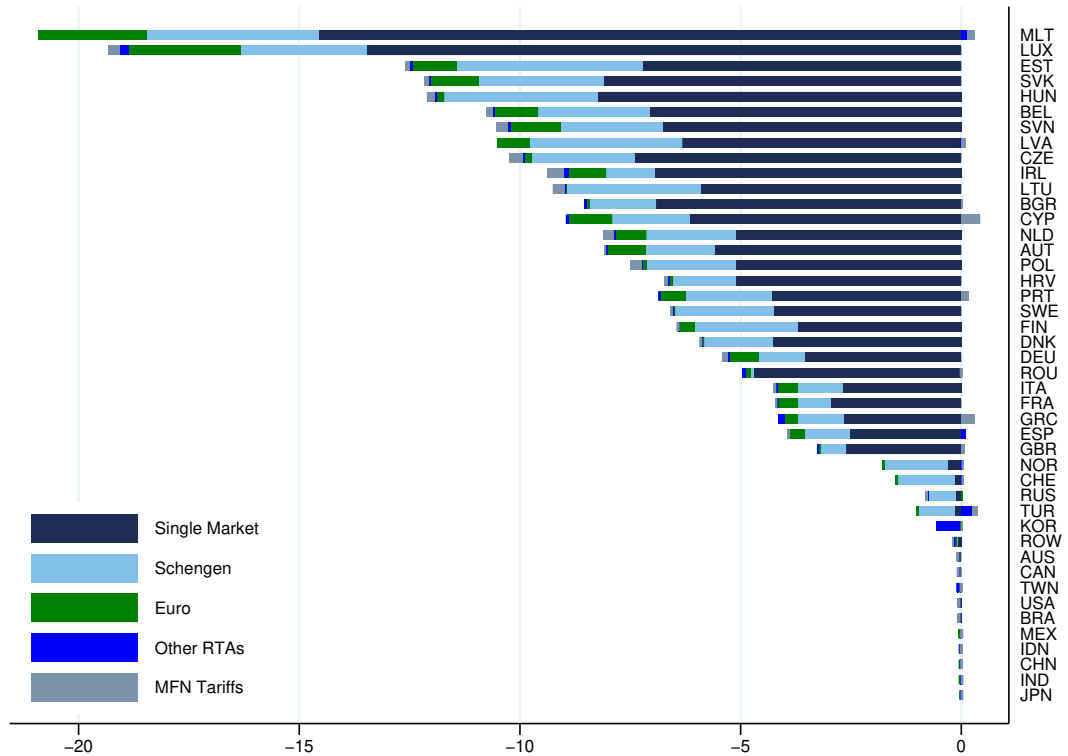
Note: Figures show the simulated real consumption changes of the various disintegration scenarios as % of the level in the baseline year 2014.

Table 2: Changes in Aggregate Output, Gross Trade Flows and VAX-Ratios

	Output		Exports to					
			old EU		new EU		non-EU	
	gross (in %)	VA/Output (in pp)	gross (in %)	VAX (in pp)	gross (in %)	VAX (in pp)	gross (in %)	VAX (in pp)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
S1 Customs Union (MFN tariffs)								
old EU	-0.86***	0.27***	-7.83***	1.40***	-8.87***	1.91***	0.16	-0.60***
new EU	-1.86***	0.53***	-8.19***	1.42***	-8.91***	2.75***	0.24	-1.29***
non-EU	0.04	-0.03***	0.34	-0.17***	-0.08	0.13	0.08***	-0.08***
S2 Single Market								
old EU	-2.95***	0.20***	-13.11***	1.15**	-13.99***	1.16*	-0.89***	-0.36***
new EU	-5.34***	0.33**	-13.31***	0.96	-14.14***	1.65	-1.06*	-1.08***
non-EU	0.10**	-0.05***	-0.15	-0.37***	-1.40*	-0.47**	0.18***	0.04
S3 Euro								
old EU	-0.58*	0.08	-1.87	0.52	-0.82**	0.10	-0.29	-0.04
new EU	-0.20	-0.01	-0.58***	-0.01	-0.34	0.20	-0.10	0.02
non-EU	0.01	-0.01	-0.23	-0.00	0.19	-0.17	0.03	0.01
S4 Schengen								
old EU	-0.94*	0.06	-4.17***	0.58*	-5.46***	0.87	-0.82*	0.07
new EU	-1.82**	0.12	-5.21***	0.73	-3.67***	1.18**	-0.93*	-0.23
non-EU	0.02	-0.02	-0.76*	0.08	-1.09*	-0.06	0.06	0.00
S5 RTAs								
old EU	-0.13**	0.00	0.08	0.00	0.21**	0.05**	-0.69***	0.17**
new EU	-0.17***	0.03***	-0.11*	0.11***	0.02	0.13***	-1.03***	0.34***
non-EU	-0.04**	-0.00	-0.84***	0.06	-1.59***	0.46***	-0.01	-0.00
S6 All								
old EU	-5.27***	0.55***	-25.25***	3.01***	-27.02***	3.39***	-2.53***	-0.67***
new EU	-9.09***	0.91***	-25.76***	2.67***	-25.58***	4.90***	-2.86***	-2.02***
non-EU	0.12*	-0.09***	-1.65**	-0.31	-4.09***	0.04	0.30***	0.01
S7 All w Transfers								
old EU	-5.89***	0.53***	-26.07***	2.97***	-31.11***	0.16	-2.20***	-0.57***
new EU	-11.95***	0.28	-23.74***	3.08***	-27.19***	2.06	0.86	-1.70***
non-EU	-0.00	-0.06***	-2.72***	-0.44***	-9.05***	-3.95***	0.13	0.08*

Note: ***,**,* denote statistical significance at the 1%,5%,10%-level based on 1,000 bootstrap replications. Results on domestic sales and total exports can be found in Table **??** in the Online Appendix. VAX means domestic value added content of exports. New EU members are the 13 mostly Eastern European countries who joined after 2003.

Table 3: Changes in Sectoral Trade Flows and VAX-Ratios, Full Collapse (S6)

	Exports to:	EU		non-EU		World	
Region	Sector	gross (in%)	VAX (in pp)	gross (in%)	VAX (in pp)	gross (in%)	VAX (in pp)
old EU	Agric.	-17.88***	-2.22	0.03	-4.86*	-12.14***	-1.07
	Manuf.	-26.73***	3.59**	-4.41***	-0.39	-16.71***	3.66***
	Serv.	-23.70***	1.59	-0.05	-2.15***	-10.34***	0.03
new EU	Agric.	-17.10***	-2.01	0.81	-4.33***	-11.34***	-1.74
	Manuf.	-26.33***	3.01**	-5.55***	-2.47***	-20.75***	3.43***
	Serv.	-25.32***	2.82	0.65	-3.71***	-14.87***	1.23

**Note**: ***,**,* denote statistical significance at the 1%,5%,10%-level based on 1,000 bootstrap replications. Results for all scenarios can be found in Table **??** in the Online Appendix.

Table 4: Changes in Sectoral Value Added and Shares in Total Value Added

Scenario: Region	Sector	Baseline	Customs Union	Single Market	Euro	Schengen	Other RTAs	All	All w Transfers
			(S1)	(S2)	(S3)	(S4)	(S5)	(S6)	(S7)
		Value added (in bn. USD)			Value added change (in %)				
new EU	Agric.	69	-2.13***	-3.91***	0.00	-1.27**	-0.15*	-7.41***	-10.81**
	Manuf.	299	-3.48***	-5.35***	-0.18*	-2.05**	-0.24***	-10.75***	-10.15***
	Serv.	1027	-0.65**	-4.98***	-0.23**	-1.63**	-0.12**	-7.47***	-12.18***
old EU	Agric.	331	-2.00***	-3.20***	-0.97*	-0.56	-0.19*	-6.59***	-7.49***
	Manuf.	2460	-2.12***	-3.41***	-0.55	-1.12**	-0.17***	-7.07***	-7.60***
	Serv.	13109	-0.27*	-2.62***	-0.48	-0.85*	-0.11**	-4.23***	-4.88***
		VA share (in %)			Change in value added share (in pp)				
new EU	Agric.	5.0	-0.04**	0.06**	0.01	0.02*	-0.00	0.04	0.05
	Manuf.	21.4	-0.47***	-0.08	0.01	-0.08	-0.02***	-0.58***	0.35*
	Serv.	73.6	0.51***	0.02	-0.02	0.05	0.02***	0.54***	-0.39**
old EU	Agric.	2.1	-0.03***	-0.01	-0.01	0.01	-0.00	-0.04	-0.04*
	Manuf.	15.5	-0.24***	-0.10***	-0.01	-0.04*	-0.01**	-0.37***	-0.35***
	Serv.	82.4	0.27***	0.11***	0.02	0.03*	0.01***	0.40***	0.39***

Note: ***,**,* denote statistical significance at the 1%,5%,10%-level based on 1,000 bootstrap replications.

Figure 6: Additional Real Consumption Effects of Transfer Cuts
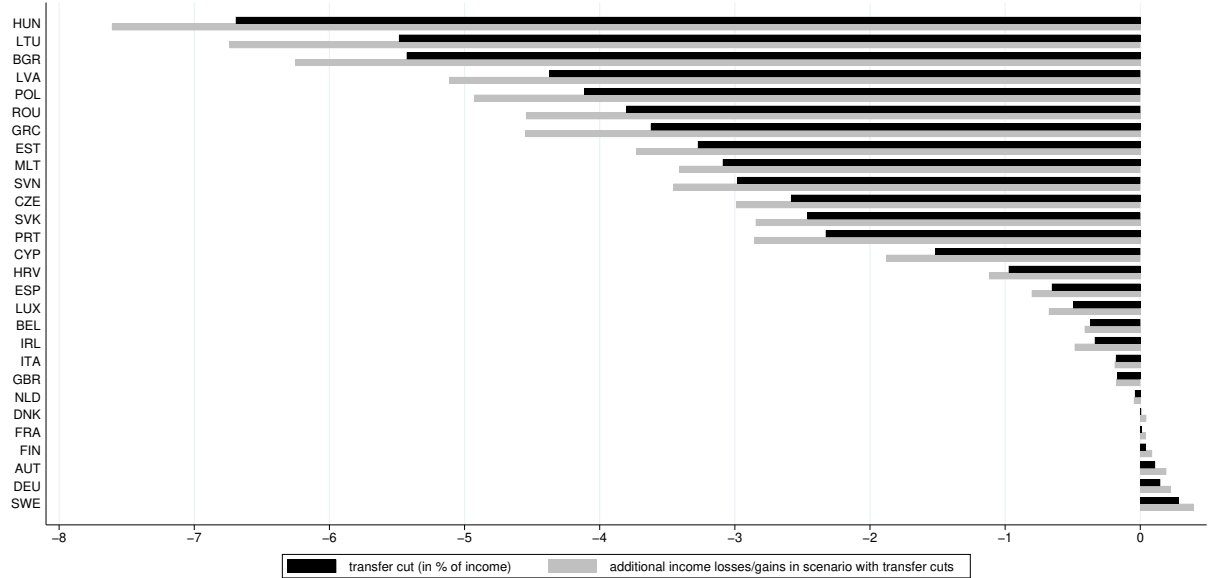

Note: The figure shows transfer cuts by EU member state implemented in S7 and difference in real consumption growth (in pp) between the EU collapse scenarios with and without transfers.

Table 5: Changes in Real Consumption in %, Baseline Year 2014

Scenario:	Customs Union	Single Market	Euro	Schengen	Other RTAs	All	All w Transfers
	(S1)	(S2)	(S3)	(S4)	(S5)	(S6)	(S7)
AUS	-0.01	-0.05***	-0.00	-0.02	-0.01	-0.08	-0.04
AUT[o]	-0.04	-5.60***	-0.88	-1.55***	-0.02	-7.76***	-7.57***
BEL[o]	-0.15	-7.06***	-0.99	-2.53***	-0.04	-10.20***	-10.61***
BGR[n]	0.03	-6.92***	-0.08	-1.50	-0.05	-8.30***	-14.54***
BRA	-0.00	-0.03	-0.01	-0.01	-0.00	-0.05	-0.02
CAN	-0.01	-0.04	-0.00	-0.02	-0.01	-0.07	-0.03
CHE	0.02	-0.14	-0.06	-1.29***	0.02	-1.46***	-1.41***
CHN	0.01	-0.02	-0.01	-0.01	0.00	-0.02	-0.01
CYP[n]	0.43***	-6.15***	-1.02	-1.76*	-0.00	-8.12***	-9.95***
CZE[n]	-0.31**	-7.40***	-0.16	-2.33***	-0.04	-9.86***	-12.88***
DEU[o]	-0.12***	-3.55***	-0.65*	-1.04***	-0.05	-5.23***	-5.00***
DNK[o]	-0.00	-4.27***	-0.03	-1.56***	-0.04	-5.71***	-5.66***
ESP[o]	-0.05	-2.53***	-0.34	-1.02***	0.09	-3.69***	-4.50***
EST[n]	-0.10	-7.22***	-1.00	-4.23***	-0.05	-11.79***	-15.52***
FIN[o]	-0.00	-3.72***	-0.35	-2.32***	-0.04**	-6.07***	-5.97***
FRA[o]	-0.02	-2.96***	-0.44	-0.75***	-0.02	-4.07***	-4.03***
GBR[o]	0.08***	-2.61***	-0.04	-0.58	-0.04	-3.12***	-3.29***
GRC[o]	0.31***	-2.67***	-0.30	-1.04***	-0.14	-3.72***	-8.27***
HRV[n]	-0.08***	-5.12***	-0.10*	-1.41***	-0.01	-6.51***	-7.63***
HUN[n]	-0.17	-8.24***	-0.16	-3.48***	-0.07	-11.53***	-19.23***
IDN	0.00	-0.01	-0.00	-0.00	-0.01	-0.02	-0.00
IND	0.01	-0.02	-0.01	-0.01	0.01	-0.01	0.01
IRL[o]	-0.37***	-6.94***	-0.86	-1.11**	-0.09***	-8.97***	-9.45***
ITA[o]	-0.06***	-2.69***	-0.46	-1.02***	-0.03	-4.09***	-4.28***
JPN	0.01	-0.01	-0.01	0.00	0.00	0.00	0.02
KOR	0.03	-0.02	-0.01	0.00	-0.53***	-0.55***	-0.54***
LTU[n]	-0.27***	-5.91***	-0.03	-3.03***	-0.02	-8.82***	-15.51***
LUX[o]	-0.25***	-13.47***	-2.53*	-2.86	-0.20	-18.06***	-18.71***
LVA[n]	0.10	-6.32***	-0.73	-3.47***	0.00	-9.85***	-14.89***
MEX	0.00	-0.03	-0.01	-0.01	0.01	-0.04	-0.01
MLT[n]	0.18***	-14.56***	-2.45	-3.90	0.13	-19.38***	-22.62***
NLD[o]	-0.23***	-5.11***	-0.70	-2.03***	-0.06*	-7.70***	-7.75***
NOR	0.04	-0.31**	-0.05	-1.42**	0.01	-1.73***	-1.69**
POL[n]	-0.25***	-5.11***	-0.08	-2.03***	-0.03	-7.18***	-12.09***
PRT[o]	0.18***	-4.29***	-0.59	-1.95***	-0.01	-6.34***	-9.19***
ROU[n]	0.00	-4.70***	-0.10	-0.08	-0.08	-4.94***	-9.44***
ROW	-0.03	-0.10*	-0.02	-0.02	-0.04	-0.16	-0.11
RUS	-0.05***	-0.13	0.04	-0.61***	-0.03***	-0.76***	-0.73***
SVK[n]	-0.11	-8.11***	-1.09	-2.83***	-0.03	-11.57***	-14.40***
SVN[n]	-0.26	-6.76***	-1.13	-2.32***	-0.06	-9.99***	-13.40***
SWE[o]	-0.05***	-4.26***	-0.04	-2.23***	-0.02	-6.29***	-5.89***
TUR	0.12	-0.14*	-0.05*	-0.82***	0.24	-0.74	-0.71
TWN	0.01	-0.04	-0.02	-0.01	-0.00	-0.06	-0.05
USA	-0.00	-0.03***	-0.01	-0.01	-0.00	-0.05***	-0.03

Note: Table shows average effects by country obtained from 1,000 simulations based on bootstrapped parameter estimates. ***,**,* denote statistical significance at the 1%,5%,10%-level according to bootstrapped distribution of simulated effects. [o] Old EU member states, [n] New EU member states.

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Figure 7: Real Consumption Losses in the EU: The Roles of Size, Initial Income, Remoteness, and Openness
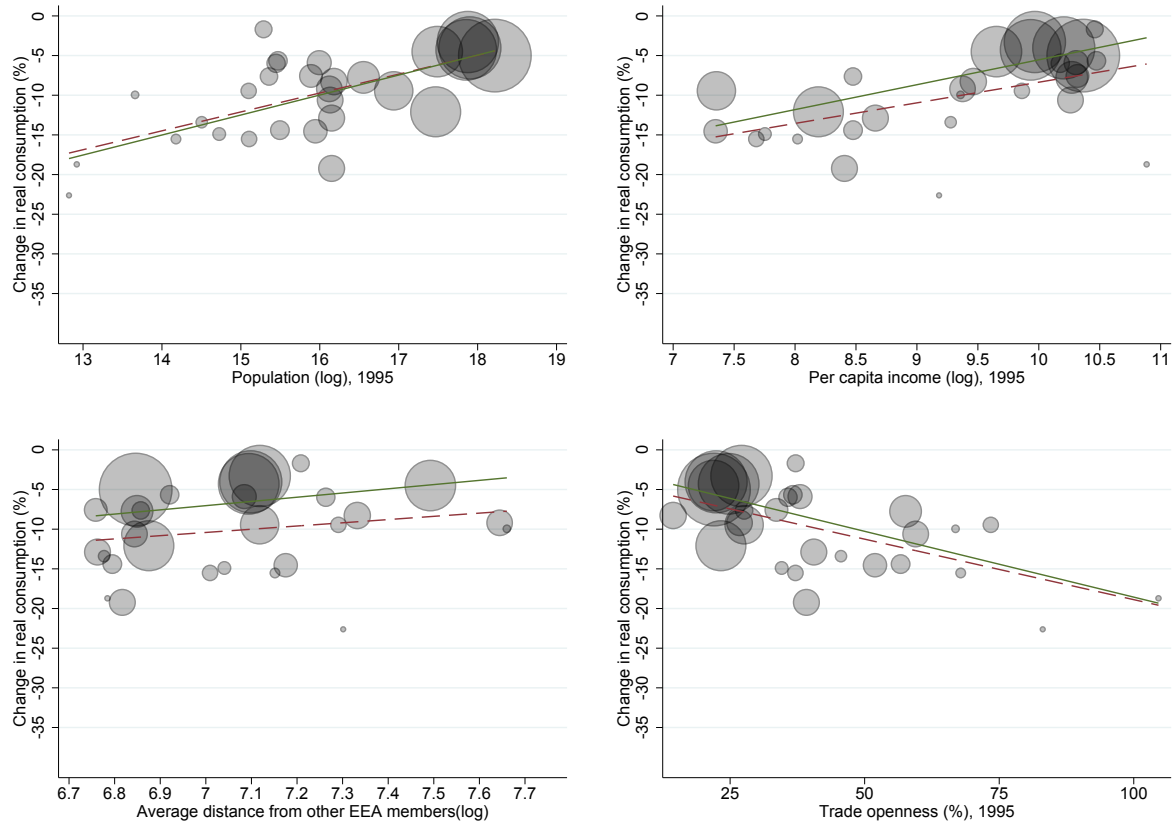
Note: The figure plots correlations between the simulated losses of a complete breakdown of European integration including the end of fiscal transfers (in % of baseline real expenditure) and various characteristics of the EU member states. The size of the population (in logs) as of 1995, income per capita in thousand US dollars (in logs) as of 1995, average distance (in km) to all other EU member states (in logs), and trade openness (exports relative to GDP, in %) in 1995. Size of circles denotes population size. Solid lines represent fitted population-weighted linear regressions; dashed lines represent fits of unweighted regressions. All slopes are statistically different from zero (at least at the 5%-level) except for regressions on log average distance (lower left diagram).

Table 6: Changes in Sectoral Value Added: Simple IO, Scenario: All (S6)

| Region	Sector	Value added change (in %)	Change in value added share (in pp)
new EU	Agric.	-6.16***	0.06***
	Manuf.	-13.00***	**-1.37*****
	Serv.	-6.59***	**1.31*****
old EU	Agric.	-5.27***	-0.01*
	Manuf.	**-9.02*****	**-0.85*****
	Serv.	-3.54***	**0.86*****

Note: ***,**,* denote statistical significance at the 1%,5%,10%-level based on 1,000 bootstrap replications. Bold-faced changes are statistically significantly different at the 1%-level from their counterparts in Table ??.

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Figure 8: Comparison of Sectoral Changes in NTBs for the Full Collapse scenario (S6), in %
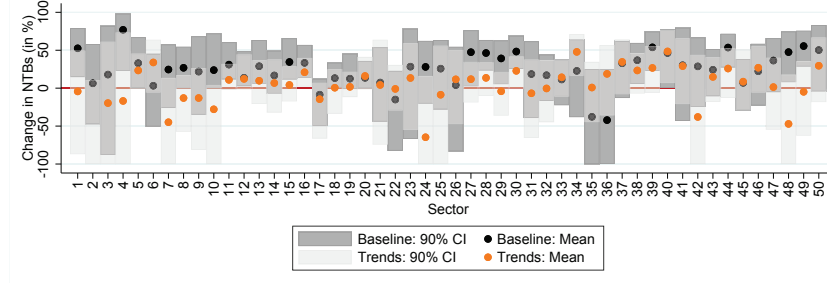
Note: The Figure compares the average increase in trade costs (ad-valorem tariff equivalents) by sector that would result from undoing all steps of the EU integration obtained from our baseline estimation (Table **??** and **??**) and obtained from an estimation including bilateral trends (Table **??** and **??**.). Bootstrapped 90% confidence intervals.

Figure 9: Real Consumption Changes: Simple vs. Complex Models
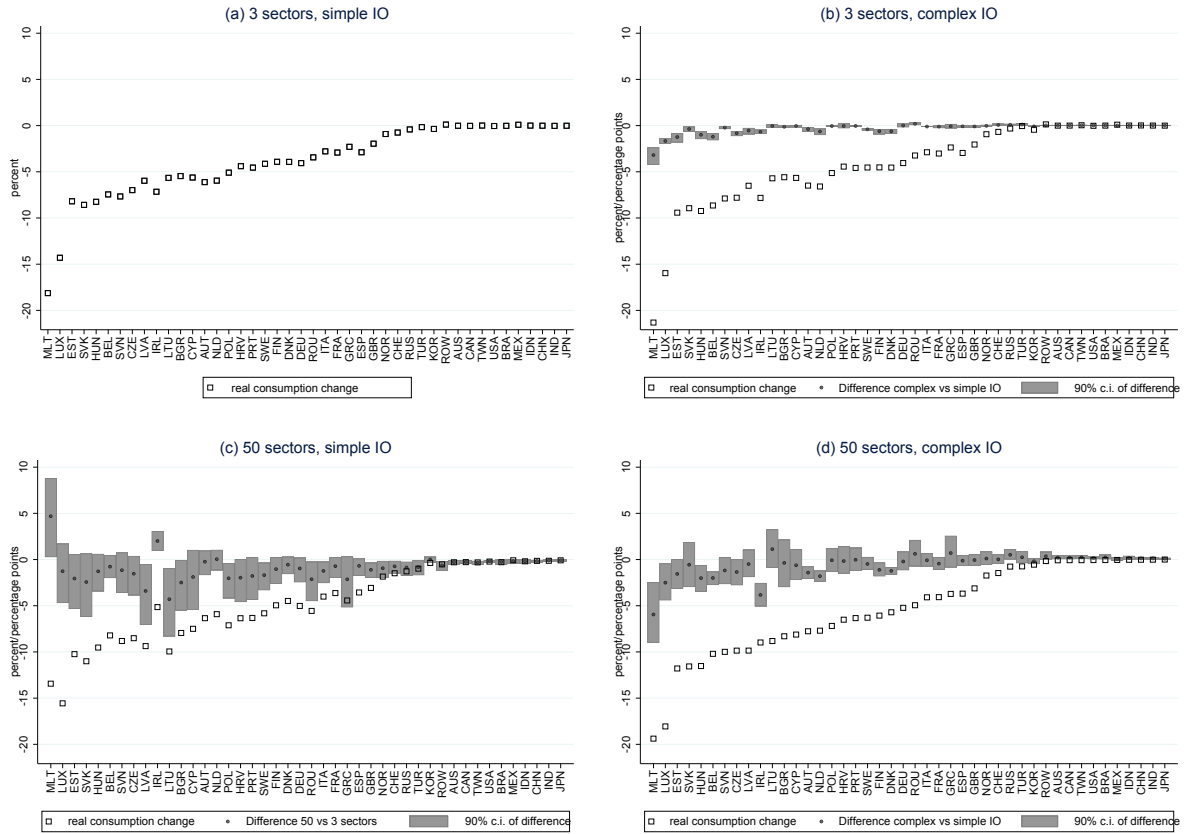
Note: The figure shows the real consumption effects (in %) in the full collapse scenario generated by models (a)-(d). Dots and confidence bounds refer to $\hat{W}^{(b)} - \hat{W}^{(a)}$ in panel (b), to $\hat{W}^{(c)} - \hat{W}^{(a)}$ in panel (c), and to $\hat{W}^{(d)} - \hat{W}^{(c)}$ in panel (d), and differences are measured in pp. Countries are ordered along the x-axis by decreasing magnitude of the real consumption effects in our main model (d).

A Appendix

Table A1: The Impact of EU Integration on Bilateral Imports (2000 - 2014)

Dep. var.:	Bilateral Imports			
	(1)	(2)	(3)	(4)
	b/se	b/se	b/se	b/se
Both Single Market	0.427***	0.381***	0.603***	0.492***
	(0.04)	(0.03)	(0.03)	(0.03)
Both Euro		0.072**		0.158***
		(0.03)		(0.06)
Schengen		0.087***		0.075***
		(0.01)		(0.02)
EU-KOR PTA		0.098		0.329***
		(0.07)		(0.06)
EU PTAs		0.414***		0.552***
		(0.07)		(0.08)
Other RTAs		0.021		-0.058
		(0.05)		(0.07)
Tariffs		-3.645***		
		(0.95)		

Note: ***, **, * denote significance at the 1%, 5%, 10% levels, respectively. All models estimated using Poisson Pseudo Maximum Likelihood (PPML) methods. Robust standard errors (in parentheses) allow for clustering at the country-pair level. All regressions include country-pair, importer-year and exporter-year fixed effects. Number of observations: 27,735.

Table A2: Dispersion parameter $1/\theta$

Dep. var.: Bilateral imports

Sector description	Sector	$-1/\theta$	90% c.i.	At constraint
Crops & Animals	1	-0.18	[-1.27; 0.00]	0.80
Forestry & Logging	2	-2.04	[-8.07; 0.00]	0.46
Fishing & Aquaculture	3	-0.58	[-4.18; 0.00]	0.81
Mining & Quarrying	4	-0.62	[-4.22; 0.00]	0.79
Food, Beverages & Tabacco	5	-0.97	[-3.12; 0.00]	0.37
Textiles, Apparel,Leather	6	-0.49	[-2.45; 0.00]	0.59
Wood & Cork	7	-0.13	[-0.96; 0.00]	0.86
Paper	8	-0.84	[-4.01; 0.00]	0.53
Recorded Media Reproduction	9	-1.11	[-5.06; 0.00]	0.54
Coke, Refined Petroleum	10	-4.02	[-9.24; 0.00]	0.22
Chemicals	11	-1.63	[-3.84; 0.00]	0.14
Pharmaceuticals	12	-9.16	[-20.27; -0.49]	0.04
Rubber & Plastics	13	-1.64	[-4.81; 0.00]	0.25
Other non-Metallic Mineral	14	-1.38	[-4.67; 0.00]	0.32
Basic Metals	15	-1.54	[-4.18; 0.00]	0.22
Fabricated Metal	16	-0.88	[-2.78; 0.00]	0.23
Electronics & Optical Products	17	-4.89	[-11.55; 0.00]	0.21
Electrical Equipment	18	-4.41	[-8.73; -0.98]	0.01
Machinery & Equipment	19	-5.08	[-12.03; 0.00]	0.13
Motor Vehicles	20	-3.97	[-7.98; -0.81]	0.01
Other Transport Equipment	21	-2.33	[-7.10; 0.00]	0.34
Furniture & Other Manufacturing	22	-3.88	[-11.55; 0.00]	0.15
Services (23-50)	23-50	-0.62	-	-

Note. Coefficient averages and 90% confidence bounds from 1000 bootstraps of the sectoral gravity equation, estimated under the constraint that $1/\theta_j \geq 0$ with a Poisson Pseudo Maximum Likelihood (PPML) estimator. Last column shows the share of draws were the constraint is binding. We bootstrapped clusters (country pairs) rather than observations to account for correlation of errors within pairs. Estimate for the services sector trade elasticity is triangulated using results in **?** and Table **??**.

Table A3: EU Integration Steps and Bilateral Imports (2000 - 2014): with trends

Dep. var.: Bilateral imports

Sector description	Sector	Single Market	Euro	Schengen	EU-KOR PTA	EU PTAs	Other RTAs
Crops & Animals	1	0.27***	0.04	0.05	-0.37	0.32	0.05
Forestry & Logging	2	-0.17	0.24	0.07	-0.67	0.10	-0.36
Fishing & Aquaculture	3	0.26	-0.26	-0.01	0.06	0.10	-0.02
Mining & Quarrying	4	0.10	-0.15	0.00	0.22	0.09	0.01
Food, Beverages & Tabacco	5	0.23**	-0.05	0.02	0.01	0.32**	0.11
Textiles, Apparel,Leather	6	0.15	0.02	-0.00	0.35	0.39**	0.02
Wood & Cork	7	-0.00	-0.03	-0.00	-0.13	0.06	-0.17
Paper	8	0.13	-0.10	-0.01	-0.03	0.06	-0.10
Recorded Media Reproduction	9	0.03	-0.03	-0.01	0.11	-0.06	-0.28
Coke, Refined Petroleum	10	-0.02	-0.11	0.10	-0.62	0.17	-0.08
Chemicals	11	0.11	-0.01	-0.01	0.10	0.21*	0.03
Pharmaceuticals	12	0.28**	0.01	0.04	-0.03	0.36**	0.04
Rubber & Plastics	13	0.06	-0.03	-0.00	0.12	0.29**	0.02
Other non-Metallic Mineral	14	-0.04	-0.03	-0.00	0.12	0.23	0.06
Basic Metals	15	0.05	0.08	0.01	-0.17	0.25	0.11
Fabricated Metal	16	0.09	0.02	-0.00	0.14	0.17	0.07
Electronics & Optical Products	17	-0.06	0.06	0.01	-0.32**	0.17	0.06
Electrical Equipment	18	0.04	-0.07	-0.03	0.05	0.30*	0.03
Machinery & Equipment	19	0.09	-0.05	0.00	-0.09	0.22	0.04
Motor Vehicles	20	0.18	-0.09	-0.01	0.17	0.76***	0.16
Other Transport Equipment	21	0.15	0.13	0.08	-0.06	0.46	0.03
Furniture & Other Manufacturing	22	0.03	-0.06	-0.06**	0.08	0.14	-0.03
Electricity & Gas	23	0.24	-0.02	0.05	-0.30	0.32	0.40*
Water Supply	24	0.08	-0.00	0.06	-0.71	0.11	-0.13
Sewerage & Waste	25	0.19	0.03	0.05	-0.65	0.41	0.44
Construction	26	0.48**	-0.05	0.08	0.08	0.10	-0.30
Trade & Repair of Motor Vehicles	27	0.04	-0.03	0.05	0.11	0.28	0.07
Wholesale Trade	28	0.09	0.01	0.07*	0.05	0.28	0.04
Retail Trade	29	-0.01	-0.13	0.05*	-0.11	0.21	0.16*
Land Transport	30	0.29	-0.03	0.06	0.19	0.69***	-0.07
Water Transport	31	0.17	0.01	0.04	-0.29	0.60	0.03
Air Transport	32	0.21	0.05	0.05	-0.24	0.33	-0.03
Aux. Transportation Services	33	0.25**	0.06	0.02	-0.05	0.64***	-0.01
Postal and Courier	34	0.94***	0.30*	0.28***	-0.28	0.86***	-0.09
Accomodation and Food	35	0.19	0.07	0.04	-0.10	0.59*	-0.14
Publishing	36	0.55***	-0.10	0.09	-0.41	0.25	0.31
Media Services	37	0.57*	-0.05	0.17**	-0.04	0.33	0.14
Telecommunications	38	0.24*	0.01	0.12*	0.21	0.59**	-0.11
Computer & Information Services	39	0.50***	0.02	0.09*	0.16	0.25	-0.21
Financial Services	40	0.60**	0.42	0.14	0.15	0.03	-0.10
Insurance	41	0.40	0.14	-0.09	0.15	0.32	0.08
Real Estate	42	0.40	-0.25	0.16*	-0.45	-0.10	-0.21
Legal and Accounting	43	0.22	0.13	0.03	0.01	0.21	-0.09
Business Services	44	0.22*	-0.04	0.07	0.03	0.48*	0.26
Research and Development	45	0.32**	0.06	0.14***	-0.35	0.15	0.04
Admin. & Support Services	46	0.46***	0.15	0.12**	-0.30	0.27	0.14
Public & Social Services	47	0.27	0.01	0.12**	-0.23	0.18	-0.09
Education	48	-0.08	0.04	0.05	-0.45	0.64	-0.10
Human Health and Social Work	49	0.18	0.04	0.08	-0.26	0.87*	-0.05
Other Serivces, Households	50	0.18	0.32	0.12	0.05	0.39	0.02

Coefficient averages from 1000 bootstraps of the sectoral gravity equation including bilateral time trends in addition to the fixed importer-time, exporter-time, and pair fixed effects, and estimated under the constraint that $1/\theta_j \geq 0$ with a Poisson Pseudo Maximum Likelihood (PPML) estimator. ***, **, * denote significance at the 1%, 5%, 10% level, respectively, according to the bootstrapped distribution of the coefficients. We bootstrapped clusters (country pairs) rather than observations to account for correlation of errors within pairs.

Table A4: Dispersion parameter $1/\theta$ – with trends

Dep. var.: Bilateral imports

Sector description	Sector	$-1/\theta$	90% c.i.	At constraint
Crops & Animals	1	-0.02	[0.00; 0.00]	0.96
Forestry & Logging	2	-1.25	[-5.07; 0.00]	0.50
Fishing & Aquaculture	3	-0.13	[-1.00; 0.00]	0.90
Mining & Quarrying	4	-3.33	[-13.97; 0.00]	0.52
Food, Beverages & Tabacco	5	-0.15	[-1.04; 0.00]	0.76
Textiles, Apparel,Leather	6	-0.21	[-1.38; 0.00]	0.77
Wood & Cork	7	-0.07	[-0.52; 0.00]	0.88
Paper	8	-0.19	[-1.37; 0.00]	0.78
Recorded Media Reproduction	9	-4.65	[-10.79; 0.00]	0.10
Coke, Refined Petroleum	10	-4.10	[-8.37; 0.00]	0.06
Chemicals	11	-1.80	[-5.00; 0.00]	0.42
Pharmaceuticals	12	-4.77	[-13.80; 0.00]	0.23
Rubber & Plastics	13	-0.97	[-3.73; 0.00]	0.48
Other non-Metallic Mineral	14	-0.42	[-2.03; 0.00]	0.58
Basic Metals	15	-1.96	[-6.59; 0.00]	0.32
Fabricated Metal	16	-0.56	[-2.36; 0.00]	0.48
Electronics & Optical Products	17	-4.10	[-11.73; 0.00]	0.41
Electrical Equipment	18	-1.58	[-6.47; 0.00]	0.50
Machinery & Equipment	19	-3.91	[-10.78; 0.00]	0.31
Motor Vehicles	20	-2.00	[-4.71; 0.00]	0.10
Other Transport Equipment	21	-2.58	[-8.17; 0.00]	0.34
Furniture & Other Manufacturing	22	-2.25	[-6.83; 0.00]	0.20
Services (23-50)	23-50	-0.62	-	-

Note. Coefficient averages and 90% confidence bounds from 1000 bootstraps of the sectoral gravity equation including bilateral time trends in addition to the fixed importer-time, exporter-time, and pair fixed effects, and estimated under the constraint that $1/\theta_j \geq 0$ with a Poisson Pseudo Maximum Likelihood (PPML) estimator. Last column shows the share of draws were the constraint is binding. We bootstrapped clusters (country pairs) rather than observations to account for correlation of errors within pairs. [†] Estimate for the services sector trade elasticity is triangulated using results in **?** and Table **??**.

Table A5: Aggregate Elasticities: Weighted Averages of Sectoral Estimates

Dep. var.: Bilateral imports

Sector description	Single Market	Euro	Schengen	Other RTA	EU-KOR PTA	$-1/\theta$
Manufacturing	0.29***	0.13*	0.06***	-0.02	0.26**	-2.28***
Services (tradable)	0.47***	0.11	0.04	-0.09	0.25**	-0.62[†]
Services (non-tradable)	–	–	–	–	–	-0.62[†]

Coefficient averages and 90% confidence bounds from 1000 bootstraps of the sectoral gravity equation including bilateral time trends in addition to importer-time, exporter-time, and pair fixed effects, and estimated under the constraint that $1/\theta_j \geq 0$ with a Poisson Pseudo Maximum Likelihood (PPML) estimator. Last column shows the share of draws were the constraint is binding. We bootstrapped clusters (country pairs) rather than observations to account for correlation of errors within pairs. [†] Estimate for the services sector trade elasticity is triangulated using results in **?** and Table **??**.

Table A6: Gross and Value Added Trade in Baseline Year 2014 (in bn. USD)

Region	Output	Domestic Sales	Exports to old EU	Exports to new EU	Exports to non-EU
old EU	31255	24929	2852	403	3071
new EU	3098	2239	452	141	266
non-EU	125134	111769	2322	255	10788

Region	Value added	Domestic absorption	Value Added Exports to old EU	Value Added Exports to new EU	Value Added Exports to non-EU
old EU	15855	11651	1607	218	2379
new EU	1394	880	238	59	217
non-EU	56688	46923	1739	185	7840

Note: Domestic sales (absorption) sums all group members' domestic consumption and does not include sales (VA exports) to other members of the same group. The difference between output (VA) and the sum of domestic sales (absorption) and (VA) exports is due to changes in the inventory stock.

Table A7: Trade Flows and VAX-Ratios in the Baseline Year 2014

		EU		non-EU	
Region	Sector	gross (bn. USD)	VAX (in %)	gross (bn. USD)	VAX (in %)
old EU	Agric.	130	62	70.8	110.8
old EU	Manuf.	2154	1762	33.8	49.3
old EU	Serv.	971	1247	103.5	115.6
new EU	Agric.	22	10	87.9	113.8
new EU	Manuf.	414	152	30.7	53.1
new EU	Serv.	156	103	96.0	120.1
non-EU	Agric.	361	1679	111.2	99.5
non-EU	Manuf.	1396	6720	44.4	41.6
non-EU	Serv.	820	2389	110.1	141.4

Note: Source: WIOD and own calculations.

Table A8: Changes in Real Consumption in %; Brexit and other Robustness

| Robustness: | | Brexit | | | Trends | Trade imbalances | |
	Brexit	All EU post-Brexit	All EU pre-Brexit (baseline)	Difference post-pre-Brexit	All EU	All EU constant	All EU balanced
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
AUS	0.01	-0.06	-0.08	0.01	-0.07***	-0.06	-0.05
AUT[o]	-0.16***	-7.61***	-7.76***	0.15	-3.37***	-8.00***	-7.74***
BEL[o]	-0.77***	-9.51***	-10.20***	0.69***	-5.04***	-10.73***	-10.24***
BGR[n]	-0.22***	-8.11***	-8.30***	0.20	-4.06**	-8.04***	-8.60***
BRA	0.01	-0.04	-0.05	0.01	-0.05***	-0.07	-0.03
CAN	-0.01	-0.05	-0.07	0.02	-0.06	-0.03	-0.04
CHE	0.01	-1.46***	-1.46***	-0.00	-0.90***	-1.38***	-1.41***
CHN	0.02	-0.02	-0.02	0.00	-0.03	0.09**	-0.01
CYP[n]	-1.29***	-7.08***	-8.12***	1.04***	-4.88***	-7.89***	-8.44***
CZE[n]	-0.30***	-9.72***	-9.86***	0.14	-4.68***	-10.92***	-9.78***
DEU[o]	-0.31***	-4.91***	-5.23***	0.31***	-2.37***	-5.66***	-5.15***
DNK[o]	-0.50***	-5.23***	-5.71***	0.48***	-2.93***	-6.09***	-5.68***
ESP[o]	-0.19***	-3.50***	-3.69***	0.19*	-1.71***	-3.69***	-3.75***
EST[n]	-0.41***	-11.67***	-11.79***	0.12	-5.37***	-11.90***	-11.72***
FIN[o]	-0.27***	-5.87***	-6.07***	0.20	-3.04***	-6.08***	-6.05***
FRA[o]	-0.38***	-3.66***	-4.07***	0.41***	-1.88***	-4.02***	-4.12***
GBR[o]	-2.39***	-0.75	-3.12***	2.37***	-1.96***	-3.09***	-3.18***
GRC[o]	-0.13	-3.48***	-3.72***	0.23*	-1.72**	-3.94***	-4.04***
HRV[n]	-0.15*	-6.32***	-6.51***	0.19**	-3.44***	-6.49***	-6.61***
HUN[n]	-0.30***	-11.42***	-11.53***	0.11	-5.20***	-12.66***	-11.54***
IDN	-0.00	-0.01	-0.02	0.01	-0.04	0.00	-0.01
IND	0.11	-0.01	-0.01	-0.00	-0.01	0.00	0.01
IRL[o]	-2.74***	-6.40***	-8.97***	2.58***	-5.78***	-11.38***	-8.93***
ITA[o]	-0.23***	-3.84***	-4.09***	0.25***	-1.84***	-4.19***	-4.06***
JPN	0.03	0.00	0.00	0.00	-0.01	-0.02	0.02
KOR	-0.13	-0.37***	-0.55***	0.18***	-0.03	-0.43**	-0.55***
LTU[n]	-0.04	-8.71***	-8.82***	0.10	-4.42***	-9.08***	-8.72***
LUX[o]	-2.57***	-15.68***	-18.06***	2.38***	-13.04***	-22.86***	-17.92***
LVA[n]	-0.44***	-9.54***	-9.85***	0.32**	-4.43***	-9.73***	-10.00***
MEX	-0.02	-0.04	-0.04	0.00	-0.08	-0.02	-0.02
MLT[n]	-3.92***	-15.96***	-19.38***	3.43***	-15.53***	-19.01***	-19.50***
NLD[o]	-0.62***	-7.13***	-7.70***	0.57***	-3.70***	-9.54***	-7.67***
NOR	-0.18*	-1.72***	-1.73***	0.01	-0.99**	-1.72**	-1.66**
POL[n]	-0.34***	-6.81***	-7.18***	0.37***	-3.39***	-7.47***	-7.23***
PRT[o]	-0.29***	-6.06***	-6.34***	0.28**	-2.45***	-6.26***	-6.54***
ROU[n]	-0.15***	-4.69***	-4.94***	0.25***	-2.64***	-4.93***	-5.02***
ROW	-0.23***	-0.08	-0.16	0.08**	-0.17***	-0.28***	-0.14
RUS	-0.06	-0.72***	-0.76***	0.04	-0.36	-0.67**	-0.75***
SVK[n]	-0.28***	-11.47***	-11.57***	0.09	-4.36***	-12.35***	-11.53***
SVN[n]	-0.18***	-9.81***	-9.99***	0.18*	-4.08***	-10.69***	-10.10***
SWE[o]	-0.43***	-5.89***	-6.29***	0.40***	-3.35***	-6.50***	-6.20***
TUR	0.08**	-0.78*	-0.74	-0.05	-0.24	-0.67	-0.73
TWN	0.06	-0.04	-0.06	0.03	-0.05	0.23***	-0.06
USA	0.02	-0.04	-0.05***	0.01	-0.04***	-0.08***	-0.03

Note: Table shows average effects by country obtained from 1000 simulations based on bootstrapped parameter estimates. ***,**,* denote statistical significance at the 1%,5%,10%-level according to the bootstrapped distribution of simulated effects. [o] Old EU member states, [n] New EU member states. Col. 1: Brexit; Col. 2: full collapse scenario from simulated baseline after Brexit; Col. 3: baseline full collapse scenario (S6); Col. 4: Difference between Cols. 2 and 3; Col. 5: Based on gravity estimations with bilateral time trends; Col 6: trade deficits held constant in nominal terms; Col. 7: scenario starting from simulated baseline with balanced trade.

B   Online Appendix

B.1 Additional Tables

Table B1: List of Sectors

Sector ID	Sectorname	ISIC Rev. 4
1	Crops & Animals	A01
2	Forestry & Logging	A02
3	Fishing & Aquaculture	A03
4	Mining & Quarrying	B
5	Food, Beverages & Tobacco	C10-C12
6	Textiles, Apparel,Leather	C13-C15
7	Wood & Cork	C16
8	Paper	C17
9	Recorded Media Reproduction	C18
10	Coke, Refined Petroleum	C19
11	Chemicals	C20
12	Pharmaceuticals	C21
13	Rubber & Plastics	C22
14	Other non-Metallic Mineral	C23
15	Basic Metals	C24
16	Fabricated Metal	C25
17	Electronics & Optical Products	C26
18	Electrical Equipment	C27
19	Machinery & Equipment	C28,C33
20	Motor Vehicles	C29
21	Other Transport Equipment	C30
22	Furniture & Other Manufacturing	C31_C32
23	Electricity & Gas	D35
24	Water Supply	E36
25	Sewerage & Waste	E37-E39
26	Construction	F
27	Trade & Repair of Motor Vehicles	G45
28	Wholesale Trade	G46
29	Retail Trade	G47
30	Land Transport	H49
31	Water Transport	H50
32	Air Transport	H51
33	Aux. Transportation Services	H52
34	Postal and Courier	H53
35	Accommodation and Food	I
36	Publishing	J58
37	Media Services	J59_J60
38	Telecommunications	J61
39	Computer & Information Services	J62_J63
40	Financial Services	K64
41	Insurance	K65_K66
42	Real Estate	L68
43	Legal and Accounting	M69_M70
44	Business Services	M71,M73-M75
45	Research and Development	M72
46	Admin. & Support Services	N
47	Public & Social Services	O84
48	Education	P85
49	Human Health and Social Work	Q
50	Other Services, Households	R-U

Table B2: Membership Accessions EU, Euro, Schengen 2000 - 2014 (WIOD Country Sample)

EU		Euro		Schengen	
Country	Accession	Country	Accession	Country	Accession
CZE	2004	GRC	2001	DNK	2001
CYP	2004	SVN	2007	FIN	2001
EST	2004	CYP	2007	ISL	2001
HUN	2004	MLT	2008	NOR	2001
LTU	2004	SVK	2009	SWE	2001
LVA	2004	EST	2011	CZE	2007
MLT	2004	LVA	2014	EST	2007
POL	2004			HUN	2007
SVK	2004			LTU	2007
SVN	2004			LVA	2007
BGR	2007			MLT	2007
ROU	2007			POL	2007
HRV	2013			SVK	2007
				SVN	2007
				CHE	2008

Source: European Commission.

Table B3: Comparison of Schengen Borders (WIOD Country Sample, Geographical Europe), 2000 and 2014

Country	Total Number of Borders	# of Schengen Borders 2000	# of Schengen Borders 2014	Share of Schengen to Total Borders 2000	Share of Schengen to to Total Borders 2014
AUT	85	29	67	34.1	78.8
BEL	106	56	88	52.8	83.0
BGR	138	17	68	12.3	49.3
CHE	87	10	69	11.5	79.3
CYP	180	22	56	12.2	31.1
CZE	87	15	69	17.2	79.3
DEU	72	24	54	33.3	75.0
DNK	95	23	77	24.2	81.1
ESP	107	59	89	55.1	83.2
EST	147	18	129	12.2	87.8
FIN	151	18	132	11.9	87.4
FRA	80	32	62	40.0	77.5
GBR	126	49	80	38.9	63.5
GRC	141	23	67	16.3	47.5
HRV	112	18	69	16.1	61.6
HUN	95	19	77	20.0	81.1
IRL	155	51	81	32.9	52.3
ITA	86	36	74	41.9	86.0
LTU	106	16	88	15.1	83.0
LUX	95	47	78	49.5	82.1
LVA	125	16	107	12.8	85.6
MLT	113	36	101	31.9	89.4
NLD	100	51	82	51.0	82.0
NOR	118	23	101	19.5	85.6
POL	88	16	69	18.2	78.4
PRT	136	88	118	64.7	86.8
RUS	118	16	49	13.6	41.5
SVK	92	24	74	26.1	80.4
SVN	98	20	76	20.4	77.6
SWE	114	23	96	20.2	84.2
TUR	155	21	65	13.5	41.9

Note: Schengen borders counted considering the shortest travel and road distance, also considering ferry connections. Total number of borders counts number of potentially treated borders in geographical Europe. Intercontinental borders are considered to be zero.

Table B4: RTAs: 2000 - 2014 (within WIOD Country Sample)

Country codes		year	Treaty
CHE	MEX	2001	EFTA - Mexico
EST	HUN	2001	Pre-EU Accession Treaties
MEX	NOR	2001	EFTA - Mexico
BGR	LTU	2002	Pre-EU Accession Treaties
CHE	HRV	2002	EFTA-Croatia (Pre-EU Accession) until 2012
CHN	IND	2002	Asia Pacific Trade Agreement (APTA) - Accession of China
CHN	KOR	2002	Asia Pacific Trade Agreement (APTA) - Accession of China
EST	BGR	2002	Pre-EU Accession Treaties
HRV	EU	2002	Pre-EU Accession Treaties
HRV	NOR	2002	EFTA-Croatia (Pre-EU Accession) until 2012
BGR	HRV	2003	Pre-EU Accession Treaties
CHN	IDN	2003	ASEAN - China
CZE	HRV	2003	Pre-EU Accession Treaties
HRV	POL	2003	Pre-EU Accession Treaties
HRV	ROU	2003	Pre-EU Accession Treaties
HRV	SVK	2003	Pre-EU Accession Treaties
HRV	TUR	2003	Croatia - Turkey (Pre-EU Accession)
HUN	HRV	2003	Pre-EU Accession Treaties
LVA	BGR	2003	Pre-EU Accession Treaties
AUS	USA	2005	United States - Australia
MEX	JPN	2005	Japan - Mexico
KOR	CHE	2006	EFTA - Korea, Republic of
NOR	KOR	2006	EFTA - Korea, Republic of
IDN	JPN	2008	Japan - Indonesia
CAN	NOR	2009	EFTA - Canada
CHE	CAN	2009	EFTA - Canada
CHE	JPN	2009	Japan - Switzerland
IDN	AUS	2010	ASEAN - Australia
IND	JPN	2011	India - Japan
KOR	EU	2011	EU - Korea, Republic of
KOR	USA	2012	Korea, Republic of - United States
CHE	CHN	2014	Switzerland - China
KOR	AUS	2014	Korea, Republic of - Australia

Table B5: Operating Budgetary Balance, Million Euro, 2010-2014

Country	Transfer
AUT	-1009.5
BEL	-1469.8
BGR	+1260.8
CYP	+29.5
CZE	+2597.0
DEU	-11901.2
DNK	-938.2
ESP	+3048.8
EST	+610.7
FIN	-604.8
FRA	-7169.7
GBR	-6425.8
GRC	+4653.6
HRV	+104.6
HUN	+4216.7
IRL	+435.3
ITA	-4756.4
LTU	+1459.6
LUX	-37.1
LVA	+792.5
MLT	+91.8
NLD	-2759.5
POL	+11477.0
PRT	+3652.3
ROU	+2678.2
SVK	+1281.0
SVN	+542.0
SWE	-1799.1

Source: European Commission.

Table B6: Changes in Domestic Sales, Gross Trade Flows and VAX-ratios

	Domestic Sales		Total Exports	
	gross (in %)	VAX (in pp)	gross (in %)	VAX (in pp)
S1 Customs Union (MFN tariffs)				
old EU	-0.07	0.39***	-4.01***	0.98***
new EU	-0.40*	0.83***	-5.68***	1.42***
non-EU	0.02	-0.03***	0.12*	-0.09***
S2 Single Market				
old EU	-1.87***	0.29***	-7.23***	1.34***
new EU	-3.69***	0.50***	-9.63***	1.62**
non-EU	0.10**	-0.05***	0.10	-0.04
S3 Euro				
old EU	-0.46*	0.05	-1.03	0.30
new EU	-0.13	-0.02	-0.39**	0.07
non-EU	0.01	-0.01	-0.01	0.00
S4 Schengen				
old EU	-0.51	0.05	-2.63***	0.61***
new EU	-1.13*	0.12*	-3.63***	0.78*
non-EU	0.03	-0.02	-0.10*	0.01
S5 RTAs				
old EU	-0.09*	0.01**	-0.29**	0.03
new EU	-0.10**	0.03***	-0.37***	0.10***
non-EU	-0.02*	0.00	-0.19***	0.02
S6 All				
old EU	-2.97***	0.77***	-14.32***	2.90***
new EU	-5.44***	1.42***	-18.60***	3.55***
non-EU	0.14**	-0.08***	-0.12	-0.05
S7 All w Transfers				
old EU	-3.63***	0.71***	-14.79***	2.91***
new EU	-10.15***	-0.90***	-16.65***	3.94***
non-EU	0.06	-0.01	-0.54***	-0.09***

Note: ***,**,* denote statistical significance at the 1%,5%,10%-level based on 1,000 bootstrap replications. VAX means domestic value added content of exports. New EU members are the 13 mostly Eastern European countries who joined after 2003.

Table B7: Changes in Sectoral Trade Flows and VAX-ratios

Exports to:		EU		non-EU		World	
Scenario		gross	VAX	gross	VAX	gross	VAX
Region	Sector	(in%)	(in pp)	(in%)	(in pp)	(in%)	(in pp)
S1 Customs Union (MFN tariffs)							
old EU	Agric.	-6.46***	-1.93**	0.13	-1.32***	-4.35***	-0.79
	Manuf.	-11.31***	1.89***	0.12	-0.87***	-6.18***	1.53***
	Serv.	-0.73***	-3.60***	0.22**	-0.45***	-0.19***	-1.70***
new EU	Agric.	-7.53***	-1.35	0.31	-1.58***	-5.01***	-0.93
	Manuf.	-11.32***	1.81***	0.11	-2.19***	-8.25***	1.66***
	Serv.	-0.65***	-3.41***	0.42**	-0.82***	-0.22***	-2.17***
S2 Single Market							
old EU	Agric.	-8.00**	-0.37	0.49	-2.61**	-5.28**	-0.27
	Manuf.	-11.42***	0.92	-1.68***	-0.17	-7.05***	1.31*
	Serv.	-17.90***	4.45***	0.15	-1.01***	-7.70***	1.72***
new EU	Agric.	-7.37**	-0.59	0.63	-1.83***	-4.80**	-0.54
	Manuf.	-11.49***	0.95	-2.41***	-0.96	-9.05***	1.33*
	Serv.	-19.71***	5.29***	0.72**	-2.19***	-11.49***	2.97***
S3 Euro							
old EU	Agric.	-3.26**	0.80	0.18	-1.19**	-2.16**	0.35
	Manuf.	-1.69	0.74	-0.55*	0.13	-1.18	0.52
	Serv.	-1.64	0.25	0.06	-0.30	-0.68	-0.03
new EU	Agric.	-0.98	0.91	0.09	-0.03	-0.63	0.62*
	Manuf.	-0.27	-0.12	-0.15	0.05	-0.23	-0.04
	Serv.	-1.13**	0.49	-0.06	-0.02	-0.70**	0.31
S4 Schengen							
old EU	Agric.	-1.34	-0.95	-0.00	-0.08	-0.91	-0.38
	Manuf.	-4.56***	0.90*	-1.20*	0.11	-3.05***	0.81*
	Serv.	-4.23***	0.35	-0.33	-0.25	-2.02***	0.10
new EU	Agric.	-1.78	-1.10	0.03	-0.63	-1.20	-0.80
	Manuf.	-5.06***	0.85	-1.41	-0.40	-4.08**	0.81*
	Serv.	-4.70***	0.55	-0.34	-0.47	-2.94***	0.32
S5 RTAs							
old EU	Agric.	-0.12	0.03	-0.68	0.08	-0.30	-0.02
	Manuf.	0.22*	0.04	-1.14***	0.32**	-0.40**	0.05
	Serv.	-0.13**	0.15***	-0.07	-0.27***	-0.09*	-0.10***
new EU	Agric.	-0.15	0.10	-0.22	-0.29	-0.17	-0.05
	Manuf.	-0.05	0.15***	-1.76***	0.62***	-0.51***	0.12***
	Serv.	-0.14***	0.13***	-0.05	-0.36***	-0.11**	-0.09***
S6 All							
old EU	Agric.	-17.88***	-2.22	0.03	-4.86*	-12.14***	-1.07
	Manuf.	-26.73***	3.59**	-4.41***	-0.39	-16.71***	3.66***
	Serv.	-23.70***	1.59	-0.05	-2.15***	-10.34***	0.03
new EU	Agric.	-17.10***	-2.01	0.81	-4.33***	-11.34***	-1.74
	Manuf.	-26.33***	3.01**	-5.55***	-2.47***	-20.75***	3.43***
	Serv.	-25.32***	2.82	0.65	-3.71***	-14.87***	1.23
S7 All w/ Transfers							
old EU	Agric.	-19.00***	-2.56	-0.02	-4.49*	-12.92***	-0.95
	Manuf.	-28.03***	3.06**	-3.89***	-0.30	-17.19***	3.66***
	Serv.	-24.75***	1.13	0.04	-1.91***	-10.75***	0.02
new EU	Agric.	-18.27***	-1.30	1.88	-2.55**	-11.79**	-0.47
	Manuf.	-24.52***	3.25**	-0.26	-1.93**	-18.01***	4.22***
	Serv.	-25.56***	3.57**	2.37***	-2.39***	-14.32***	2.34**

Note: ***,**,* denote statistical significance at the 1%, 5%, 10%-level based on 1,000 bootstrap replications.

Table B8: Changes in Value Added for EU28, Goods (in %)

Sector Description	Sector ISIC	Sector	Single Market	Customs Union	Euro	Schengen	Other RTAs	All	All w Transfers
Crops & Animals	A01	1	-2.56***	-3.05***	-0.47	-1.06**	-0.12	-6.93***	-8.73***
Forestry & Logging	A02	2	-1.76***	-2.75***	-0.44*	-1.04*	-0.19***	-6.08***	-7.04***
Fishing & Aquaculture	A03	3	-2.60***	-2.78***	-0.46	-0.80	-0.06	-6.43***	-8.51***
Mining & Quarrying	B	4	-0.99*	-4.03**	-1.54**	0.12	-0.30**	-6.53*	-6.97*
Food, Beverages & Tabacco	C10-C12	5	-2.95***	-3.31***	-0.50	-1.08**	-0.09	-7.46***	-8.89***
Textiles, Apparel,Leather	C13-C15	6	-3.48***	-2.28*	0.05	-1.07*	-0.43**	-7.17***	-8.33***
Wood & Cork	C16	7	-2.05***	-2.77***	-0.47	-0.99**	-0.23***	-6.35***	-7.17***
Paper	C17	8	-1.33***	-3.02***	-0.46*	-0.94**	-0.16	-5.70***	-6.46***
Recorded Media Reproduction	C18	9	-0.54***	-2.75***	-0.46*	-0.89*	-0.12**	-4.63***	-5.54***
Coke, Refined Petroleum	C19	10	-2.20***	-5.99***	-2.46**	-0.20	0.36	-9.94**	-10.30**
Chemicals	C20	11	-4.09***	-5.72***	-1.40**	-2.03**	-0.51***	-12.71***	-13.22***
Pharmaceuticals	C21	12	1.11	-5.84**	-0.58	-1.32	0.64	-6.10	-5.35
Rubber & Plastics	C22	13	-3.16***	-3.99***	-0.59	-1.53**	-0.31***	-9.04***	-9.56***
Other non-Metallic Mineral	C23	14	-1.32***	-2.96***	-0.57	-0.98*	-0.23***	-5.85***	-6.74***
Basic Metals	C24	15	-2.22***	-4.89***	-1.34	-1.70*	-0.43***	-10.05***	-10.15***
Fabricated Metal	C25	16	-1.58***	-3.00***	-0.51	-1.14**	-0.25***	-6.24***	-6.79***
Electronics & Optical Products	C26	17	-3.40***	-2.56	1.10	0.34	-0.20**	-4.77	-4.59
Electrical Equipment	C27	18	-2.57***	-5.24***	-0.56	-1.87**	-0.21*	-10.01***	-9.89***
Machinery & Equipment	C28,C33	19	-1.14***	-2.70***	-0.46	-1.13*	-0.26**	-5.49***	-5.55***
Motor Vehicles	C29	20	-4.39***	-4.12***	-0.04	-2.03**	-0.35***	-10.42***	-10.69***
Other Transport Equipment	C30	21	-1.04***	-1.24	-1.00	-0.51	-0.02	-3.82***	-3.77**
Furniture & Other Manufacturing	C31&C32	22	-1.53***	-2.63*	-0.42	-1.08*	0.10	-5.36***	-5.67**

Note: ***,**,* denote statistical significance at the 1%,5%,10%-level based on 1,000 bootstrap replications. Given changes in value added for EU28 are weighted averages.

Table B9: Changes in Value Added for EU28, Services (in %)

Sector Description	Sector ISIC	Sector	Single Market	Customs Union	Euro	Schengen	Other RTAs	All	All w Transfers
Electricity & Gas	D35	23	-0.76***	-3.17***	-0.52*	-1.00*	-0.14**	-5.40***	-6.54***
Water Supply	E36	24	-0.42**	-2.88***	-0.48	-0.98*	-0.12	-4.75***	-6.04***
Sewerage & Waste	E37-E39	25	-0.76***	-3.20***	-0.69*	-0.98*	-0.15***	-5.56***	-6.39***
Construction	F	26	-0.14	-2.90***	-0.48	-0.92*	-0.11**	-4.45***	-5.61***
Trade & Repair of Motor Vehicles	G45	27	-0.61***	-2.91***	-0.40	-1.09*	-0.13***	-5.00***	-6.06***
Wholesale Trade	G46	28	-0.83***	-3.00***	-0.48	-1.06**	-0.15**	-5.33***	-6.12***
Retail Trade	G47	29	-0.25	-2.82***	-0.44	-0.95*	-0.10*	-4.45***	-5.50***
Land Transport	H49	30	-0.72***	-2.89***	-0.52*	-0.96*	-0.15**	-5.07***	-5.94***
Water Transport	H50	31	-0.11**	-1.57***	-0.10	-0.36	0.01	-2.09***	-2.19***
Air Transport	H51	32	-0.12	-2.72***	-0.23	-0.68	-0.06	-3.76***	-4.28***
Aux. Transportation Services	H52	33	-0.73***	-3.03***	-0.43	-1.08**	-0.14**	-5.23***	-6.02***
Postal and Courier	H53	34	-0.40***	-2.53***	-0.42*	-0.81*	-0.11**	-4.17***	-4.96***
Accomodation and Food	I	35	-0.07	-2.66***	-0.44	-0.86*	-0.07	-4.03***	-5.36***
Publishing	J58	36	-0.33**	-2.85***	-0.19	-0.76*	-0.08**	-4.13***	-4.81***
Media Services	J59&J60	37	-0.17	-2.68***	-0.43*	-0.73*	-0.11*	-4.03***	-4.78***
Telecommunications	J61	38	-0.22	-2.74***	-0.42	-0.89*	-0.10*	-4.27***	-5.47***
Computer & Information Services	J62&J63	39	-0.22*	-1.92***	-0.31	-0.66*	-0.09**	-3.16***	-3.75***
Financial Services	K64	40	-0.38***	-2.22***	-0.30	-0.82*	-0.11**	-3.75***	-4.59***
Insurance	K65&K66	41	-0.19	-2.67***	-0.53**	-0.62	-0.10**	-4.01***	-4.72***
Real Estate	L68	42	-0.13	-2.69***	-0.47	-0.87*	-0.12**	-4.19***	-5.22***
Legal and Accounting	M69&M70	43	-0.61***	-2.78***	-0.61*	-0.88	-0.12**	-4.81***	-5.45***
Business Services	M71,M73-M75	44	-0.62***	-2.89***	-0.43	-0.88*	-0.16**	-4.83***	-5.52***
Research and Development	M72	45	-0.08	-2.73***	-0.47*	-0.90*	-0.08*	-4.19***	-4.88***
Admin. & Support Services	N	46	-0.57***	-2.92***	-0.49	-0.89*	-0.12**	-4.85***	-5.51***
Public & Social Services	O84	47	-0.10	-2.91***	-0.52	-0.95*	-0.11**	-4.50***	-5.72***
Education	P85	48	-0.05	-2.88***	-0.46	-0.95*	-0.11**	-4.37***	-5.54***
Human Health and Social Work	Q	49	-0.05	-2.91***	-0.49	-0.96*	-0.11**	-4.44***	-5.28***
Other Serivces, Households	R-U	50	-0.13	-2.73***	-0.45	-0.87*	-0.11**	-4.21***	-5.23***

Note: ***,**,* denote statistical significance at the 1%,5%,10%-level based on 1,000 bootstrap replications. Given changes in value added for EU28 are weighted averages.

Figure B1: Percentage Change in Real Consumption relative to Status Quo, Various Scenarios

Note: The figure depicts percentage changes in real consumption relative to the baseline year 2014. The dashed lines are the 90% confidence bounds based on 1,000 bootstrap replications.

Table B10: Changes in Real Consumption in S6; Alternative Models

Robustness:	Alternative Models								Aggregate Estimation	
	$\hat{W}$				Difference				$\hat{W}$	Difference[†]
# sectors	3	3	50	50					3	3
IO structure	simple	complex	simple	complex					complex	complex
	(a)	(b)	(c)	(d)	(b)-(a)	(c)-(a)	(d)-(c)	(d)-(a)	(f)	(f)-(a)
MLT[n]	-18.13***	-21.32***	-13.43***	-19.38***	-3.19***	4.70*	-5.95***	-1.25	-22.80***	-1.49
LUX[o]	-14.30***	-15.97***	-15.56***	-18.06***	-1.67***	-1.26	-2.50**	-3.76**	-16.85***	-0.88
EST[n]	-8.19***	-9.42***	-10.24***	-11.79***	-1.24***	-2.05	-1.55	-3.60***	-9.89***	-0.46
SVK[n]	-8.58***	-8.94***	-11.01***	-11.57***	-0.36***	-2.43	-0.56	-2.99***	-9.09***	-0.16
HUN[n]	-8.25***	-9.24***	-9.52***	-11.53***	-0.99***	-1.27	-2.00**	-3.28***	-10.04***	-0.80
BEL[o]	-7.45***	-8.64***	-8.21***	-10.20***	-1.20***	-0.76	-1.99***	-2.76***	-8.88***	-0.24
SVN[n]	-7.66***	-7.88***	-8.82***	-9.99***	-0.22***	-1.15	-1.17	-2.33**	-8.02***	-0.14
CZE[n]	-6.98***	-7.81***	-8.51***	-9.86***	-0.83***	-1.53	-1.35	-2.88***	-8.58***	-0.78
LVA[n]	-5.97***	-6.51***	-9.37***	-9.85***	-0.54***	-3.40**	-0.49	-3.89***	-7.04***	-0.53
IRL[o]	-7.16***	-7.82***	-5.15***	-8.97***	-0.66***	2.01***	-3.83***	-1.82***	-8.26***	-0.44
LTU[n]	-5.66***	-5.70***	-9.95***	-8.82***	-0.04	-4.29***	1.13	-3.16***	-6.35***	-0.65
BGR[n]	-5.46***	-5.58***	-7.95***	-8.30***	-0.12*	-2.48*	-0.36	-2.84**	-6.41***	-0.82
CYP[n]	-5.62***	-5.66***	-7.50***	-8.12***	-0.04	-1.88	-0.62	-2.50**	-6.21***	-0.55
AUT[o]	-6.12***	-6.49***	-6.34***	-7.76***	-0.38***	-0.23	-1.41***	-1.64**	-6.70***	-0.21
NLD[o]	-5.96***	-6.59***	-5.91***	-7.70***	-0.63***	0.05	-1.79***	-1.74***	-6.73***	-0.14
POL[n]	-5.09***	-5.13***	-7.11***	-7.18***	-0.05	-2.02**	-0.07	-2.09***	-5.77***	-0.64
HRV[n]	-4.39***	-4.43***	-6.35***	-6.51***	-0.05	-1.96	-0.16	-2.12***	-5.18***	-0.74
PRT[o]	-4.54***	-4.58***	-6.32***	-6.34***	-0.04	-1.77	-0.02	-1.79**	-4.78***	-0.20
SWE[o]	-4.13***	-4.53***	-5.82***	-6.29***	-0.40***	-1.69**	-0.47	-2.16***	-5.08***	-0.54
FIN[o]	-3.92***	-4.52***	-4.95***	-6.07***	-0.60***	-1.03	-1.11***	-2.15***	-4.78***	-0.26
DNK[o]	-3.92***	-4.54***	-4.48***	-5.71***	-0.61***	-0.56	-1.23***	-1.78***	-5.09***	-0.56
DEU[o]	-4.06***	-4.06***	-5.02***	-5.23***	0.01	-0.96	-0.21	-1.17***	-4.30***	-0.24
ROU[n]	-3.43***	-3.24***	-5.56***	-4.94***	0.20**	-2.13**	0.62	-1.51***	-3.94***	-0.71
ITA[o]	-2.78***	-2.88***	-4.01***	-4.09***	-0.10***	-1.23**	-0.07	-1.30***	-3.04***	-0.15
FRA[o]	-2.91***	-3.02***	-3.63***	-4.07***	-0.11	-0.72	-0.44	-1.16***	-3.18***	-0.16
GRC[o]	-2.30***	-2.37***	-4.43***	-3.72***	-0.07	-2.13	0.71	-1.42**	-2.62***	-0.26
ESP[o]	-2.88***	-2.96***	-3.56***	-3.69***	-0.08	-0.68	-0.13	-0.81**	-3.07***	-0.11
GBR[o]	-1.96***	-2.04***	-3.07***	-3.12***	-0.09	-1.11***	-0.05	-1.16**	-2.38***	-0.34
NOR	-0.91**	-0.93**	-1.84***	-1.73***	-0.02	-0.93**	0.11	-0.82**	-1.06*	-0.13
CHE	-0.75**	-0.68*	-1.48***	-1.46***	0.07	-0.73**	0.02	-0.71**	-0.85	-0.17
RUS	-0.41***	-0.31**	-1.27***	-0.76***	0.10***	-0.86**	0.51*	-0.35*	-0.40*	-0.09
TUR	-0.16	-0.05	-0.98	-0.74	0.12	-0.82**	0.25	-0.57**	-0.17	-0.12
KOR	-0.36***	-0.44***	-0.36*	-0.55***	-0.08**	0.00	-0.19	-0.19	-0.24	0.20
ROW	0.11	0.13	-0.52	-0.16	0.02	-0.63***	0.35	-0.27***	0.05	-0.08
AUS	-0.02	-0.00	-0.29***	-0.08	0.01	-0.28***	0.21***	-0.06***	-0.03	-0.03
CAN	-0.03	0.00	-0.28***	-0.07	0.03	-0.25***	0.21***	-0.04	-0.03	-0.03
TWN	0.01	0.04	-0.30***	-0.06	0.04***	-0.31***	0.24***	-0.07*	0.00	-0.04
USA	-0.04	-0.02	-0.22***	-0.05***	0.02	-0.18***	0.16***	-0.01	-0.03	-0.01
BRA	-0.02	0.00	-0.29	-0.05	0.03	-0.26**	0.23**	-0.03	-0.02	-0.02
MEX	0.09	0.10	-0.08	-0.04	0.01	-0.17	0.04	-0.13**	0.07	-0.03
IDN	0.00	0.01	-0.19	-0.02	0.01	-0.19	0.17	-0.03	-0.02	-0.03
CHN	-0.01	0.02	-0.14**	-0.02	0.03***	-0.13	0.12**	-0.01	-0.01	-0.03
IND	-0.03	0.01	-0.13	-0.01	0.03	-0.11	0.12**	0.01	-0.01	-0.02
JPN	-0.01	-0.00	-0.08	0.00	0.01	-0.07	0.09	0.02	-0.02	-0.02

Note: Table shows average effects by country obtained from 1000 simulations based on bootstrapped parameter estimates. ***,**,* denote statistical significance at the 1%,5%,10%-level according to the bootstrapped distribution of simulated effects. [o] Old EU member states, [n] New EU member states. Real consumption effects $\hat{W}$ in %, differences in pp. [†] Significance levels cannot be computed because model (f) and (a) are not based on the same set of estimates.