

Allowance Transactions in the EU ETS: Evidence from EUTL Data

Claudia Kettner, WIFO

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- The idea of emissions trading is based on differences in abatement costs between regulated entities
- Vis-à-vis a carbon standard, emissions trading provides more flexibility for regulated entities
 - Actors with lower abatement costs could reduce their emissions below their predefined emission limit and sell the surplus reductions
 - Actors with higher abatement costs could buy these surplus reductions and would be allowed to emit more than their initial limit
 - Permit trading would lead to an equalization of costs across participants and aggregate cost efficiency in equilibrium
- The more pronounced the differences in marginal abatement costs between market participants, the higher are the incentives for trading

- The EU Emission Trading Scheme (EU ETS) is a key instrument in European climate policy
- Largest cap-and-trade scheme worldwide – Covers more than 50% of EU CO₂ emissions
- Broad range of activities covered by the scheme
- Trading phases
 - Phase 1 (2005 - 2007) – “Pilot Phase”
 - Phase 2 (2008 - 2012) – Kyoto Commitment Period
 - Phase 3 (2013 – 2020) – Post-Kyoto Perspective

- Allocation Principles
 - Allocation of allowances at Member State level in National Allocation Plans (NAPs)
 - Grandfathering as allocation principle
- Allowance Transfers
 - No banking between Phase 1 and Phase 2
 - Banking of allowances between Phase 2 and Phase 3
 - Offsets could be used within the limits defined in the NAPs

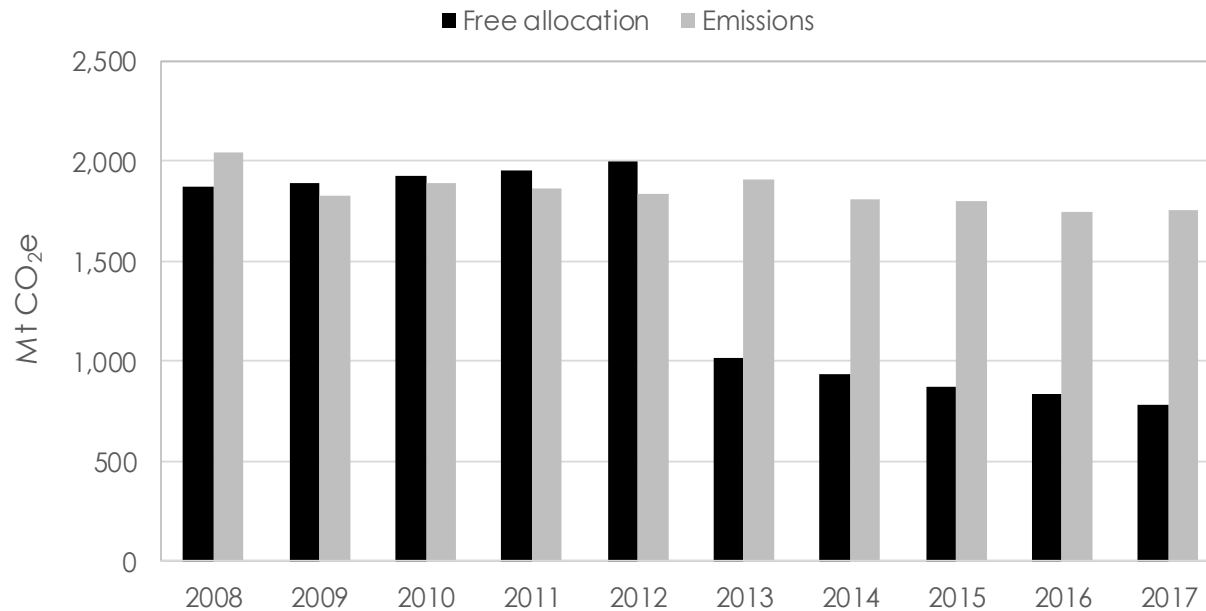
- Allocation Principles
 - EU-wide cap declining between 2013 and 2020 (-1.74% p.a.)
 - EU-wide allocation process
 - Power sector: Full auctioning
 - 'Exposed' sectors: 100% free allocation
 - 'Normal' sectors: 80% free allocation in 2013 (30% in 2020)
 - Free allocation is based on EU-wide sectoral benchmarks
- Quantity management
 - Protection against excessive price increases
 - Backloading of allowances
 - Market stability reserve (2018)

- Allocation Principles
 - Linear reduction factor of the EU-wide cap will be increased to 2.2%
 - Continued mix of auctions and free allocation - share of auctioned allowances fixed to 57%
 - Changes in criteria for carbon leakage
 - Updated benchmarks for free allocation
- Changes to market stability reserve
 - Higher percentage of allowances to be set aside
 - Cancellation of allowances exceeding the auctioning volume of the previous year

European Union Transaction Log (EUTL)

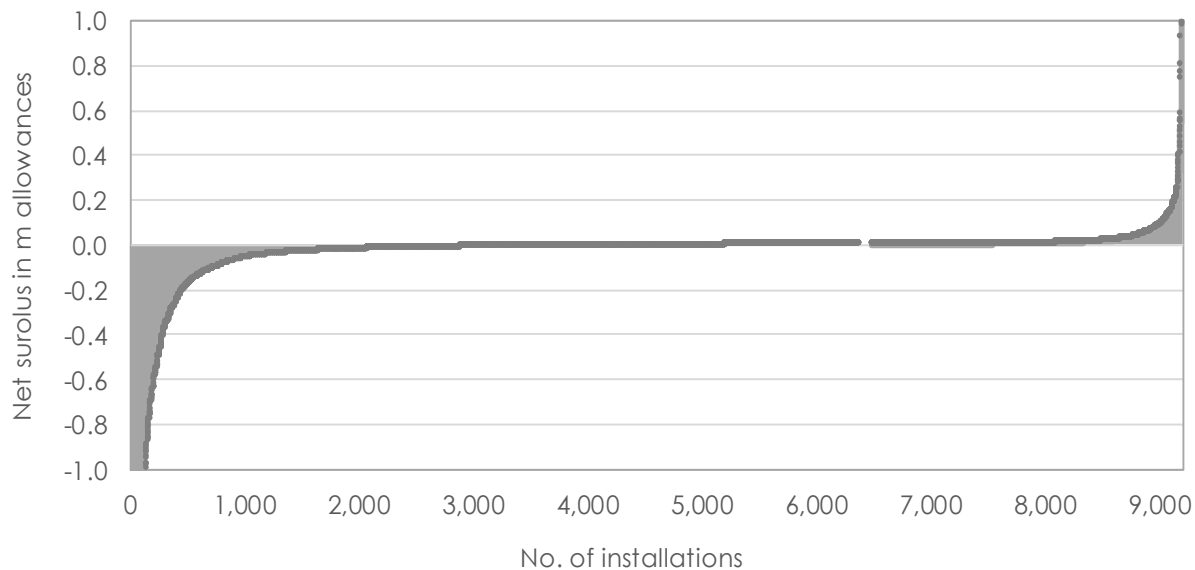
- Previously Community Independent Transaction Log
- Transactions Data
 - Information on
 - Transferring and acquiring registry
 - Transferring and acquiring account
 - Transaction type
 - Date
 - **Not** linked to ETS installation accounts (Operator Holding Accounts)
 - Period covered: 2005 – 2015

WIFO ■ Free Allocation and Emissions in the EU ETS 2008 - 2017

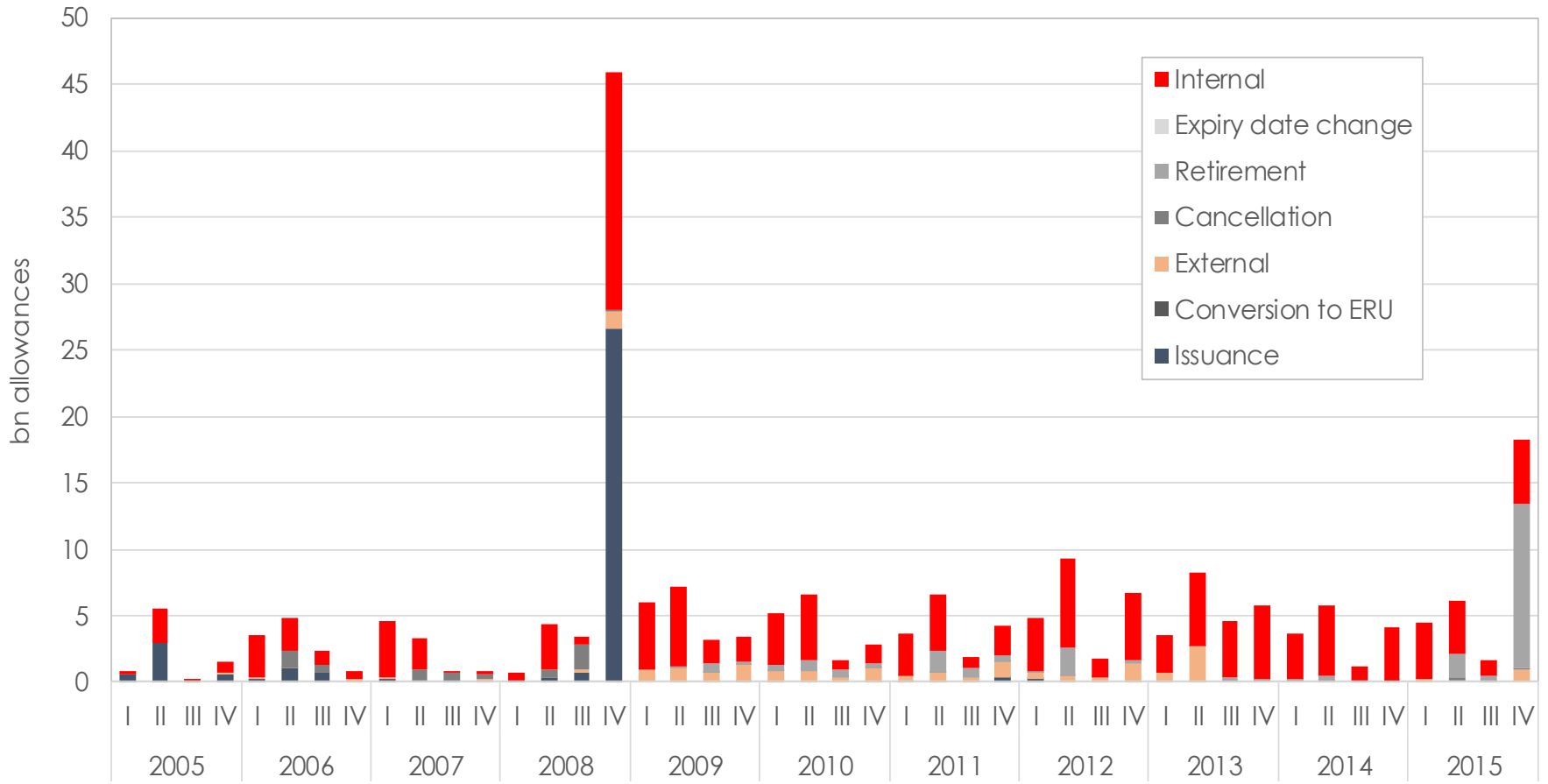


Source: EUTL data published by EU Commission

Shortages and surpluses of free allocation at installation level (2017)

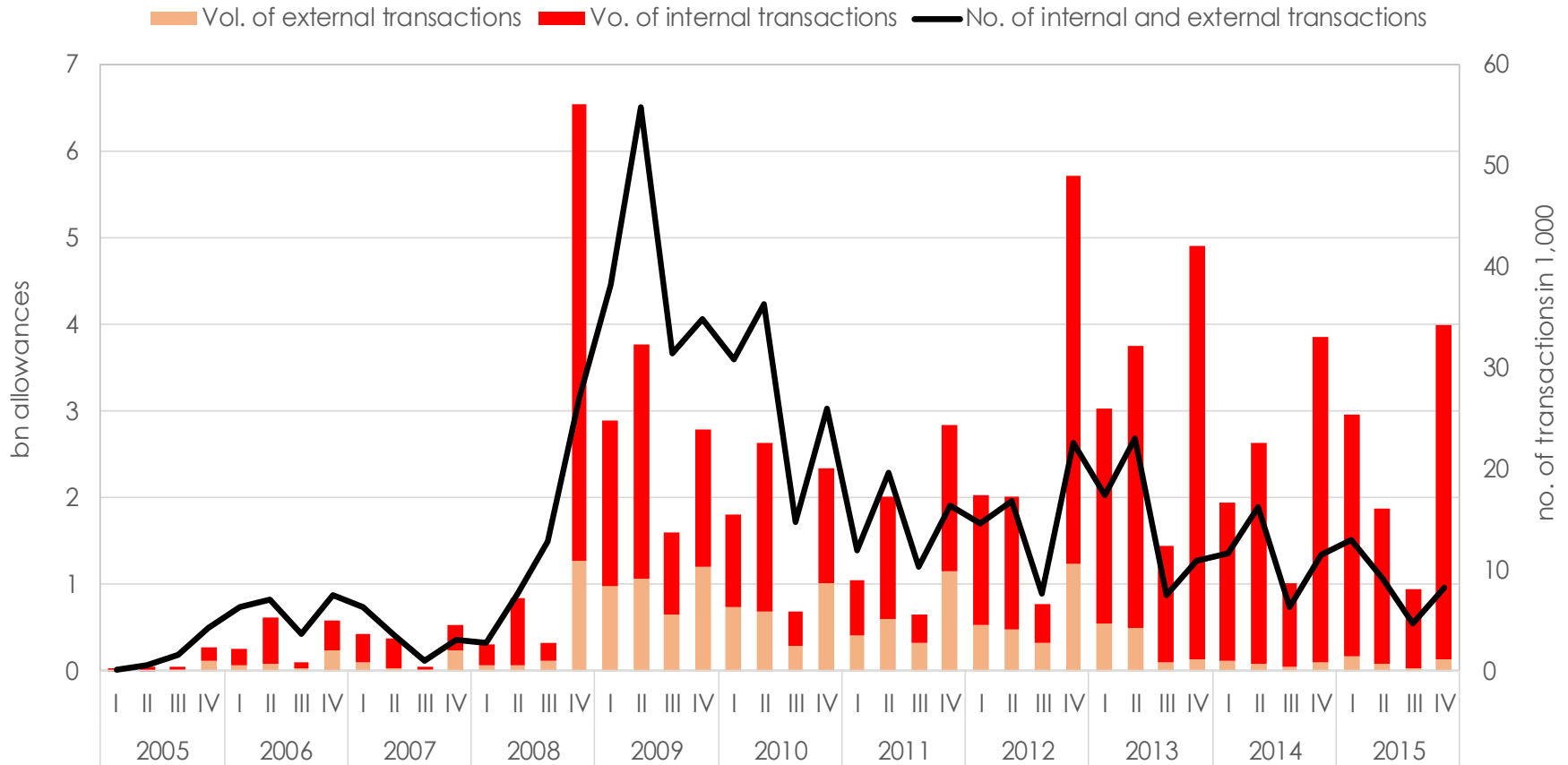


Development of Transaction Volume All transactions



Source: EUTL

Development of Transactions External and Internal* Transactions

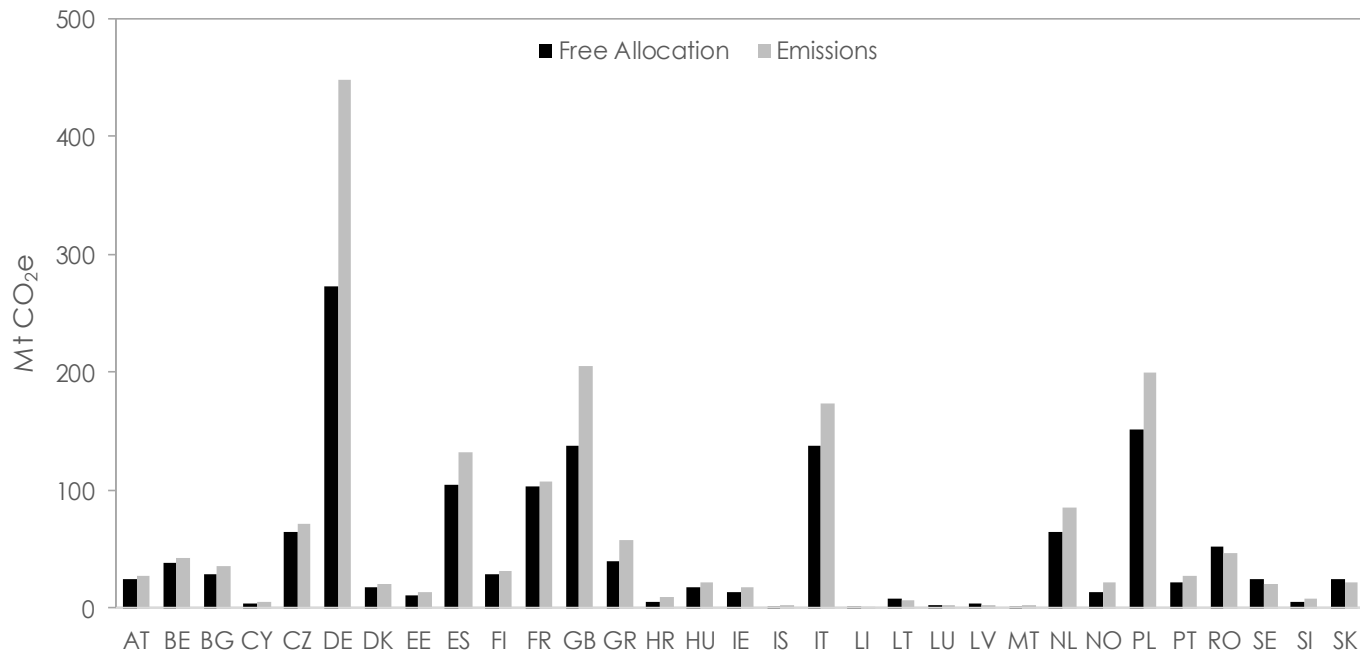


Source: EUTL

*Excluding allocation of allowances, surrender etc.

Free allocation and emissions

Country level, annual average 2008/17



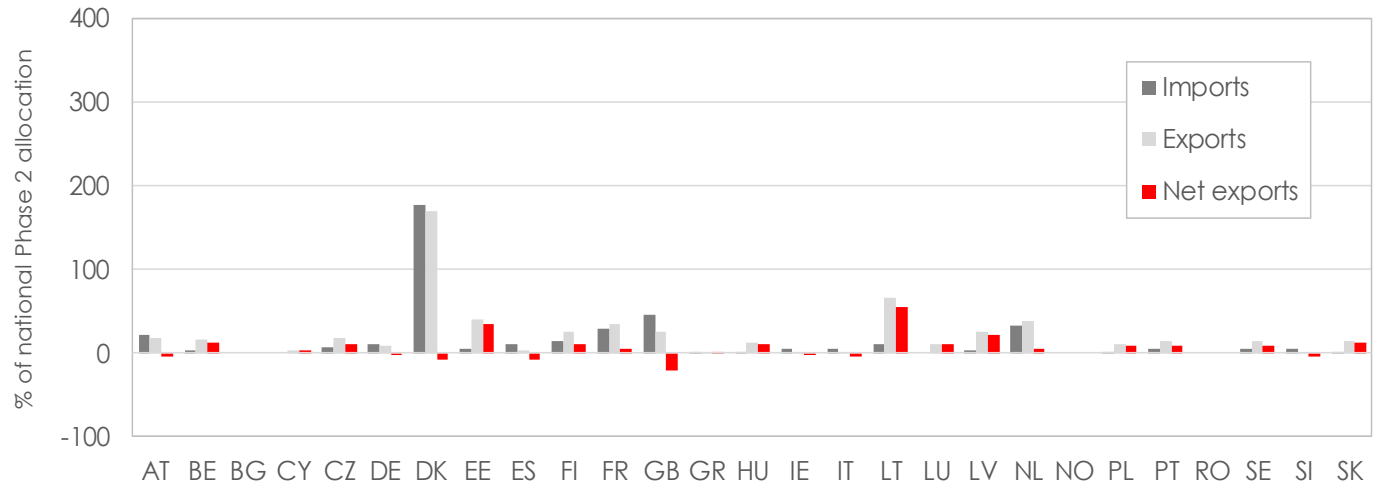
Average Annual Allowance Transfers in m

Phase 3 (2013-2015)

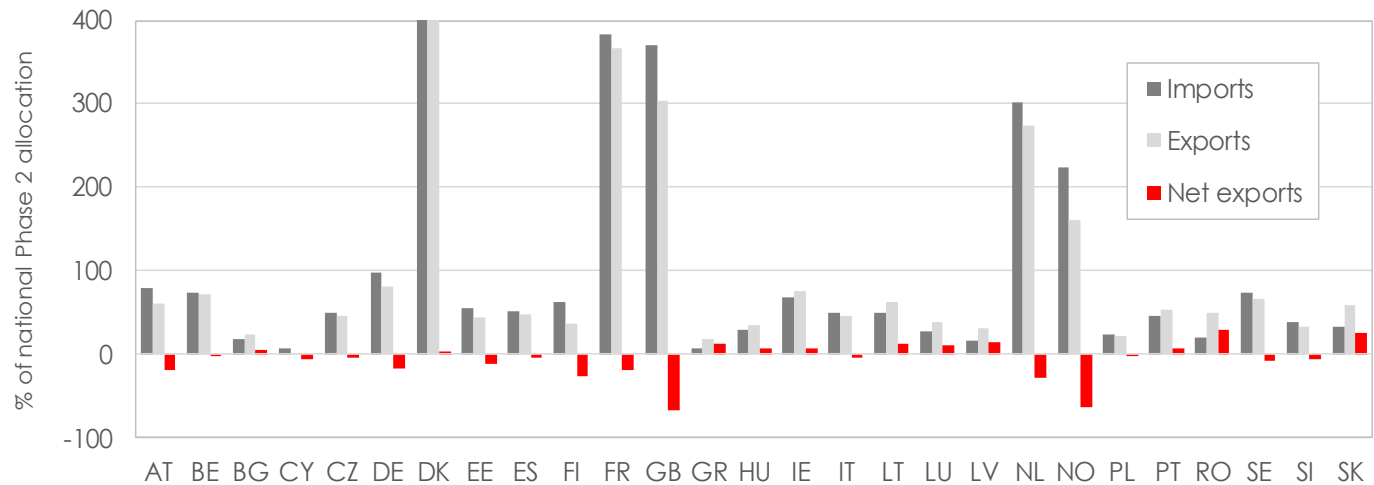
Aq Tr	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IS	IT	LI	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	Σ	X	
AT	16	0	0	0	0	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	26	10	
BE	0	28	0	0	0	5	0	0	0	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	48	20
BG	0	0	8	0	0	1	0	0	0	0	1	4	0	0	0	0	0	25	0	0	0	0	0	0	0	7	0	1	0	0	10	57	50	
CY	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	
CZ	0	0	3	0	38	4	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	17	80	42	
DE	8	8	4	0	7	2,034	8	0	11	1	91	675	7	0	6	1	0	28	0	0	0	0	1	142	2	47	4	1	0	5	24	3,126	1,091	
DK	0	0	0	0	0	0	25	0	0	0	0	7	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	37	11	
EE	0	0	0	0	0	0	0	9	0	0	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	14	
ES	0	0	0	0	0	4	0	0	166	0	9	23	0	0	0	0	0	6	0	0	0	0	0	1	0	0	4	0	0	0	0	220	53	
FI	0	0	0	0	0	1	0	0	0	28	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	50	22	
FR	2	8	3	0	15	52	0	2	8	0	124	212	1	0	0	1	0	6	0	0	0	0	0	12	0	21	2	8	0	0	12	496	371	
GB	2	4	34	0	21	595	7	16	34	15	161	3,293	35	1	6	16	0	143	0	1	0	0	1	92	12	30	9	9	6	3	22	4,656	1,363	
GR	0	0	1	0	0	0	0	0	0	0	2	1	52	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	57	5	
HR	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
HU	0	0	0	0	0	1	0	0	0	0	0	3	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12	6
IE	0	0	0	0	0	1	0	0	1	0	0	2	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	5
IS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IT	0	0	1	0	0	9	0	0	35	0	5	164	0	0	0	0	0	0	0	0	0	0	2	18	0	0	0	0	0	0	3	629	241	
LI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	4	4
LU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
LV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	1
MT	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2
NL	1	7	6	0	3	88	2	0	0	0	38	106	2	2	0	0	0	9	0	0	1	0	0	121	0	14	0	0	1	0	0	429	308	
NO	0	1	0	0	0	1	1	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	1	28	0	0	0	1	0	0	40	12	
PL	0	0	4	0	1	1	0	0	0	0	11	13	0	0	0	0	0	0	0	0	0	0	0	2	0	250	0	0	0	0	0	284	34	
PT	0	0	0	0	0	1	0	0	6	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	29	10	
RO	1	0	1	0	0	0	0	0	0	0	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	27	15	
SE	1	1	0	0	0	1	0	0	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	3	4	1	0	0	22	0	0	41	19	
SI	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	11	6	
SK	0	1	0	0	1	1	0	0	0	0	0	3	0	0	1	0	0	82	0	0	0	0	0	0	0	0	0	0	0	0	2	90	88	
Σ	35	59	65	2	86	2,827	45	30	274	47	486	4,726	101	3	20	32	1	700	0	2	1	1	4	437	52	380	39	33	40	14	92	10,778	3,805	
M	19	31	57	1	48	793	19	21	108	19	361	1,433	49	3	13	19	1	312	0	2	1	1	4	316	25	129	20	21	18	9	89	3,944		
NM	-9	-11	-7	0	-6	299	-8	-7	-55	3	10	-70	-43	-2	-7	-14	0	-71	0	2	0	0	-2	-8	-13	-96	-10	-6	1	-4	-2			

Cross-country flows of allowances Phase 1 & Phase 2

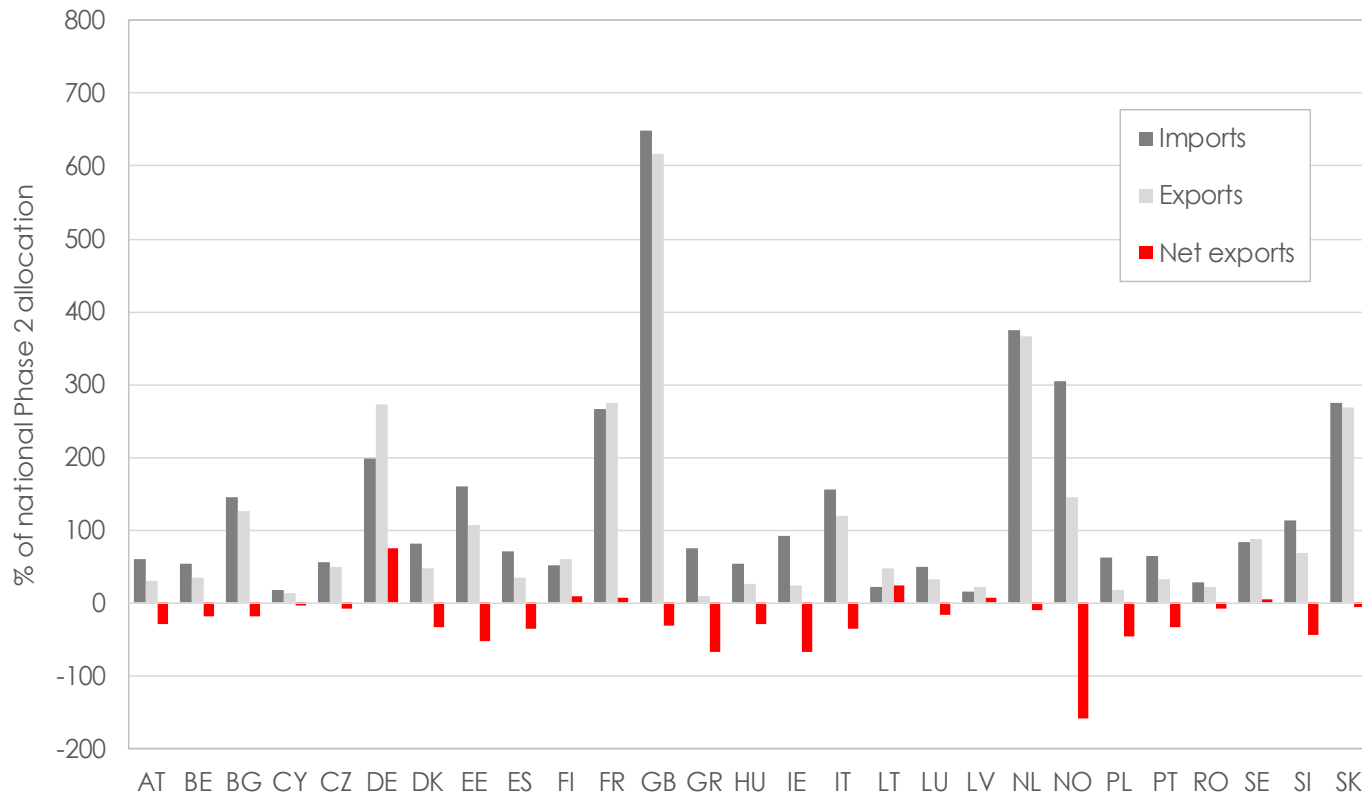
Phase 1 (2005/2007)



Phase 2 (2008/2012)



Source: EUTL



- Options for analysing trading in the EU ETS are limited
 - Time lag of data publication
 - Structural breaks in data due to transition from CITL to EUTL
 - Linking of transaction data and OHA data is challenging
 - No link between transaction data and compliance data
- Empirical evidence shows increasing transfer activity since 2005
- No evidence on whether this reflects increased participation of covered installations in trading
- Tighter cap in Phase 3 and measures against the surplus of allowances might further spur transfers

- Linkage of transaction and OHA data
- Linking of transaction data with data on allocation and emissions
- Linking of transaction data with additional company information (based on Jaraite et al. – ‘Ownership links and enhanced EUTL dataset’)

Thank you for your attention!

claudia.kettner@wifo.at