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EU ETS: Role of Financial Sector

Dr. Regina Betz

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www.ceem.unsw.edu.au

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Time travel back to 2005-2007 Phase 1

- European Union Transaction Log (EUTL called CITL) provides information on all transfers in the registry including names of account holders

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The EUTL

- Records all transactions of EUAs, CERs, ERUs including allocation, surrendering.
- Published with a 5 year delay (now: Jan 05 – Dec 09): Since permits can be surrenderd until April of the following year, this means Phase 1 is up to April 2008.
- Only physical transactions (no price information)
- Additional information on account holders (two different types)
- Data on installation basis, matching to companies manually on the basis of account holder names, email addresses, web research, etc.

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Two types of Market Players

- Regulated players
  - Phase 1: 12,844 **Operation Holding Accounts (OHAs**)
  - Free allocation
  - Compliance incentive
  - Information about own emissions and abatement costs
- Non-regulated players
  - Around 5,000 PHAs
  - Phase 1: 650 active **Person holding accounts (PHAs)**
  - Have to buy permits first in order to take part in market

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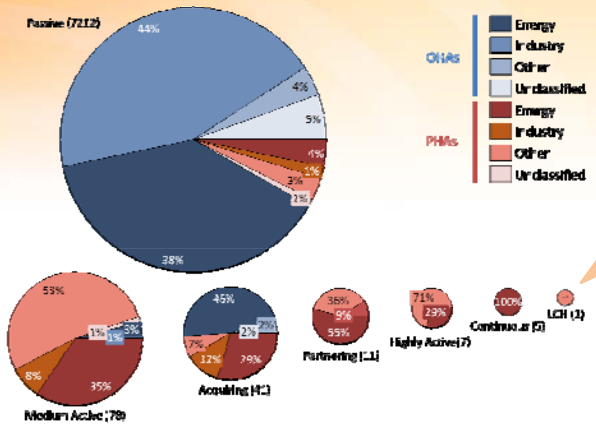
Cluster analysis shows that PHAs are more active than OHAs



LCH = London Clearing House

Source: Betz and Schmidt 2014

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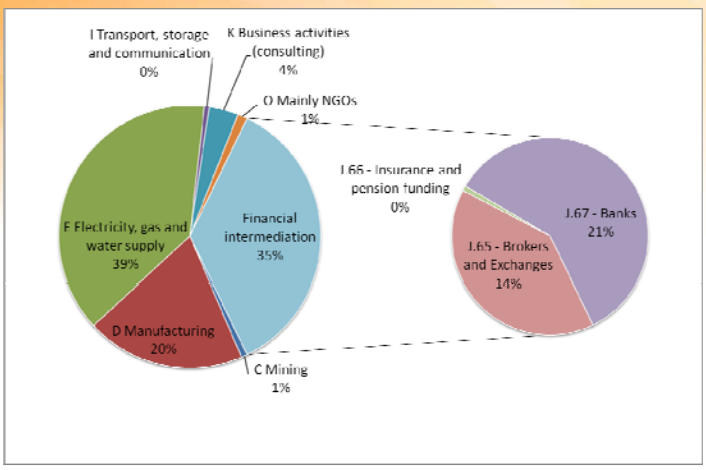
Active PHAs in Phase 1 by NACE codes



Financial sector plays an important role

Source: Own calculations based on EUTL data and NACE code classification

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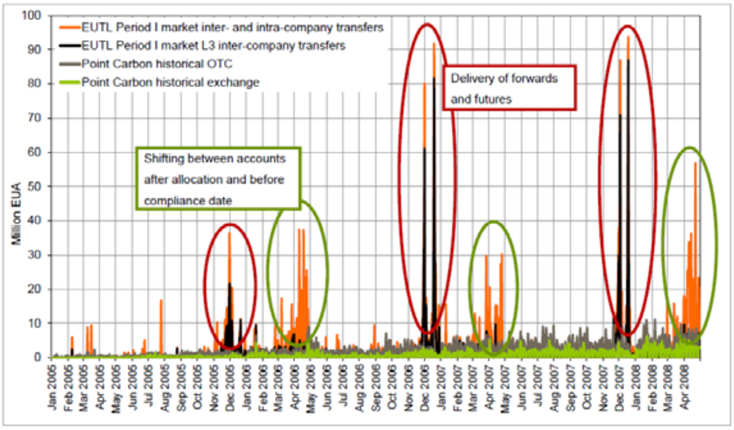
Transfer volumes during the first trading period: OTC and exchange (Point Carbon) vs. EUTL data



Derivative market plays a dominant role

Source: Cludius 2014

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Dominant role of financial &energy sector

Entities with highest transaction volumes on forward and futures delivery days

Company	Volume on forward / futures days (Mt)	Representing a share of: The company's total trading volume in Period I	Representing a share of: Total trading volume on forward / futures days
Clearing house, exchange			
LCH Clearnet	204	91%	17%
NASDAQ OMX (Nordpool)	9	11%	1%
CDC	6	5%	1%
Financial actors			
UBS AG*	119	82%	10%
Calyon Financial	71	89%	6%
BARCLAYS PLC*	68	43%	6%
AGEAS SA/NV*	34	38%	3%
BNP PARIBAS*	33	72%	3%
MORGAN STANLEY*	25	58%	2%
GOLDMAN SACHS GROUP*	25	78%	2%
SOCIETE GENERALE	18	48%	1%
ROYAL BANK OF SCOTLAND	13	49%	1%
COMMERZBANK AG	13	37%	1%
SAL. OPPENHEIM JR. & CIE. *	9	53%	1%
NUCLEAR LIABILITIES FUND	9	74%	1%
PCE Investors	8	67%	1%
MERRILL LYNCH & CO.*	8	34%	1%
DEUTSCHE BANK AG*	6	33%	1%
Industry			
SAINT GOBAIN SA	19	39%	2%
RHODIA SA	10	43%	1%

Company	Volume on forward / futures days (Mt)	Representing a share of: The company's total trading volume in Period I	Representing a share of: Total trading volume on forward / futures days
Utilities			
ELECTRICITE DE FRANCE	40	67%	3%
RWE AG	28	42%	2%
E.ON SE	25	35%	2%
SSE PLC	22	60%	2%
ENEL SPA	18	27%	2%
ENBW AG	18	57%	1%
GDF	16	19%	1%
ESSENT N.V.	16	59%	1%
ALLIANDER N.V.	15	41%	1%
IBERDROLA SA	14	67%	1%
CENTRICA PLC	13	35%	1%
DRAX GROUP PLC	12	56%	1%
CEZ A.S.	12	67%	1%
VATTENFALL AB	12	35%	1%
Deeside Power Limited	8	25%	1%
VEOLIA ENVIRONNEMENT	7	33%	1%
Sempra Energy Europe Ltd.	7	44%	1%
Energy			
ROYAL DUTCH SHELL	24	41%	2%
BP PLC	18	41%	1%
BHP BILLITON LIMITED	9	76%	1%
TOTAL S.A.	8	56%	1%

Source: EUTL; own estimation

Note: All of the companies shown are involved in at least 1 % of the total volume transacted on those days;* denotes accounts that have direct transactions with LCH Clearnet ('clearing accounts')

Source: Cludius 2014

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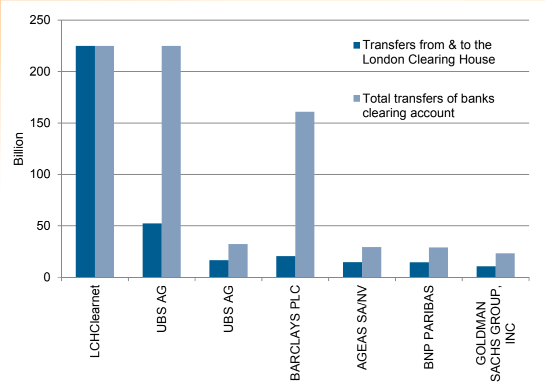
Trading on the LCH the main future exchange is in the hand of a few banks



Note: AGEAS is an insurance company now but was FORTIS Bank before

Source: EUTL data work by Betz, Cludius and Schopp

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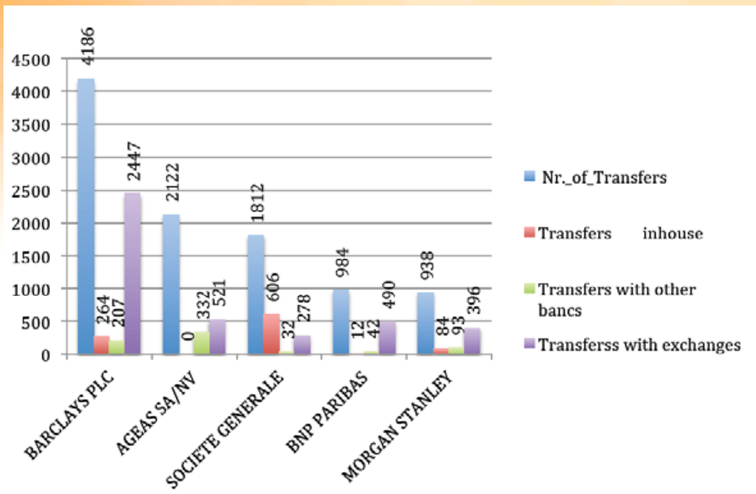
The five most active banks



Source: Hugentobler 2014

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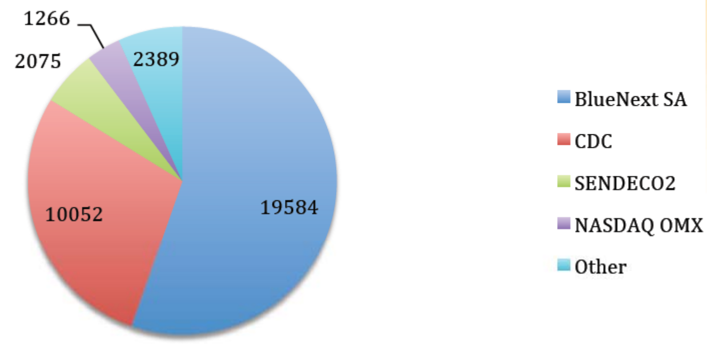
The five most active exchanges (number of transfers)



Source: Hugentobler 2014

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Various Roles of Financial Sector

Banks roles with regard to EU ETS market:

- **Hedging partner**: Provide hedging products (futures and forwards) to manage price risk for regulated companies mainly electricity industry
- **Intermediation**: Broker for small companies which have no access to exchanges.
- **Aggregator**: Acquire surplus allowances from smaller companies, lower transaction costs and improve efficiency
- **Market maker**: provide liquidity by frequently quoting bids and offers with a maximum spread of 5 cents. In return they receive a special discount from the exchange.
- **Finance and service provider**: borrow permits and surrender them with a certain interest rate or manage EUAs for clients
- **Speculator and Arbitrageur**
- **Market Analyst**: Provide information to the market through publications

Exchanges roles:

- Provide different products like standardised **future contracts**
- Provide **clearing** and reduce risk and transaction costs
- Provide price and volume **information**

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Today Phase 3

Change in EU ETS Design
- 50% free allocation and 50% auctioning

Financial Sector changes
- Main spot exchanges like BlueNext close down end of 2012
- EEX becomes major spot exchange and provides main auction platform
- ICE ECX is the most active future exchange
- Many banks closed down commodity trading desks due to new regulations for commodity trading which have been introduced after the financial crises
- New trading companies are formed
- Those overtake “bank roles” as they do not fall under financial regulations
- Banks may pursue cost of carry arbitrage, e.g. buy spot from auction/industry, hold EUA and sell futures to electricity providers

Summary and policy conclusions

- Financial sectors reduces transaction costs by providing exchanges
- High number of exchanges at the beginning lead to competition which did increase liquidity through market makers and ended with only 2 main exchanges (EEX and ICE)
- Banks reduced number of expired EUAs by actively aggregating EUAs from small companies
- Banks were hedging countreparties for electricity industry, but they close down their trading desks
- Service and trading companies are taking over the role of banks since they do not fall under the new regulations and banks provide cheap money
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Final Thoughts

How would an ETS without financial sector/ non-regulated company involvement look like?

- Less liquidity on spot and derivative markets (less market makers and hedging partners)
- Higher transaction costs (less competition of exchanges)
- Lower participation in trading (no aggregators)

Would this market be less volatile?

- Most likely not since energy sector, which is regulated, played similar roles e.g. market maker, aggregator, speculator

What may be the consequences if banks drop out and others are taking over their roles?

- …this needs research and will be the trip into the future

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Thank you.

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r.betz@unsw.edu.au

betz@zhaw.ch

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