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Abstract: *»Die Gewinnung von Legitimität für die European Energy Exchange«*. This paper analyzes the strategies to build legitimacy for the European Energy Exchange in Leipzig (short: EEX) which became the central trading place for electricity in Germany in 2002. Following Suchman's differentiation in the three phases of gaining, maintaining and repairing legitimacy, it focuses on the phase of gaining legitimacy. The arguments in this article are predominately based on neo-institutional sociology. They are part of a larger project on the forms, functions and consequences of price building at the EEX.

Keywords: legitimacy, strategy, electricity, market, exchange.

Introduction

As late as in 1990, the "Vereinigung deutscher Elektrizitätswerke" (the Federation of German Power Plants), maintained "that electricity is not a commodity like other commodities but a service for which – like the production of drinking water – there was no competition anywhere in the world" (Alber and Fritsche 1991). Only eight years later, the liberalisation of the German electricity market entered its first stage. And less than another two years later, electricity was traded as homogeneous asset at the exchange, just like copper, gold or sides of pork.

While in a physical sense, of course, electricity remained the same, the trade in this commodity had changed dramatically in that period. No doubt, the statement from 1990 had something to do with the safeguarding of interest. If electricity is described as a heterogeneous service, the asset is bound to the respective suppliers, making it unique and incomparable to other electricity products. This is a common sales strategy for homogeneous commodities (Packard 1957). However, the brisk advance of the liberalisation of the electricity market (for a critical assessment of the consequences of liberalisation, see Bontrup and Marquardt 2010, 67ff.) and the start of the exchange-based electricity trading in Germany in 2000 speak a different language. Now the type and quality of electricity could be determined, transforming electricity into a

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good to be traded in organised global markets (Cieslarczyk and Pilgram 2006, 633).

In this paper, I will look at the question of how the initiators of the electricity exchanges in Frankfurt and Leipzig succeeded in establishing the exchange-based trade in Germany. The key term in this context is *legitimacy*. In what way have the EEX and the LPX, as institutional entrepreneurs, been able to shape their environment, acquire credentials and preserve them through time? For the electricity exchanges are not simply other actors in the electricity market. They act as the baseline price barometers of the electricity market.

My understanding of legitimacy for the purpose of this paper is informed by Marc Suchman (1995, 574) who defines legitimacy as "*a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs, and definitions*". To this definition, Niklas Luhmann adds a decisive extension. According to Luhmann, legitimacy means "*accepting, within certain tolerance limits, a generalized condition of decisions whose content is as yet undetermined*" (Luhmann 1983, 28). This makes legitimacy not a kind of voluntary acceptance but a communication process that restructures what is expected and that, by creating the 'right climate', takes care that the generally accepted decision is adopted as a premise of one's own behaviour (ibid., 31ff.). Combining both views in this paper, legitimacy communication denotes the communicative skill of structuring the expectations of actors in such a way that the electricity exchange is perceived as being accepted in the framework of certain normative tolerance limits.

The reason that the exchange-based electricity trade required legitimacy communication is not least explained by the fact that at the time of the foundations of the energy exchanges they were the first of their kind in Germany.[1] The electricity exchange is not a German invention. When the idea of establishing such market places was discussed in Germany for the first time, energy exchanges had long been in existence in other regions of the world.[2] The proponents of energy exchanges had to win support for this kind of trade against the backdrop that the wholesale market for electricity operated extremely well in Germany. Market players had been and still are operating on the OTC market;[3]

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[1] As previously Smith suggested, legitimacy has a particular importance for auctions (1990, 80 et seq.). And even when it is an auction without face-to-face interaction legitimacy is deeply needed for stabilising alliances (cf. Hellmann 2007, 187ff.).

[2] At this time e.g. the Nord Pool (founded 1996), the reformed New Zealand Electricity Market (founded 1996), the California Power Exchange (founded 1998) and the APX Power UK (founded 2000) were already established. All these power exchanges were visited by the founding committee of the LPX (cf. BD EEX 2010, para 35, see footnote 8).

[3] Berlinghof, Scholz and Krohs define OTC transactions as follows: "Commodity futures traded and concluded outside an exchange are referred to as »Over-the-Counter«- (short: OTC) transaction" (2006, 670).

but – unlike at the exchange – in a bilateral setting between electricity sellers and buyers.

Looking at the legitimacy communication of the exchanges, the paper asks who are the *senders* and who the *audiences*. On the part of the senders, what interests us in the run-up to the formation of the exchange is the commitment of its founders, an aspect that has been studied by Donald MacKenzie and Yuval Millo (2003) in their case study on the Chicago Board Options Exchange (CBOE), whose founding fathers committed themselves personally to gain legitimacy for the CBOE. After the foundation of the exchange, I assume the organiser's perspective of the exchange as sender and follow the argument advanced by Dirk Baecker (1999), according to which exchanges can be understood as a hybrid of organisation and market. The relevant institutional entrepreneur is the strategically operating corporate management of the exchange as organisation which, endowed with the required resources, carries out legitimacy work for the market end of the exchange (cf. DiMaggio 1988).

Despite all efforts, the actor trying to acquire legitimacy remains dependent upon the relative audience, the addressee of the legitimacy communication, because legitimacy is "*a relationship with an audience rather than being a possession of the organization*" (Suchman 1995, 594). The proponents of electricity exchanges are faced with the question of identifying relevant reference groups, for instance potential market participants, and adapting their legitimacy strategy to possibly conflicting expectations of different reference groups (cf. Walgenbach and Meyer 2008, 65-67; Meyer and Rowan 1977; Brunsson 1989).

The following section starts with looking at the general conditions of the electricity market for setting up and establishing exchange-based trading (part 1). This will be followed by a discussion of the legitimacy strategies (part 2) based on Suchman's differentiation of gaining, maintaining and repairing legitimacy. Focussing on the first phase of legitimacy building, which falls into a period of heightened debate on energy politics, I work out seven legitimacy strategies: (1) legitimacy qua function, (2) legitimacy import from a well-established exchange and the early involvement of relevant actors, (3) legitimacy import by copying an established market concept, (4) merger of equals to increase market liquidity, (5) legitimacy by approval procedures and state supervision, (6) satisfaction of transparency needs and, finally, (7) legitimacy by acquisition and training of market participants.

Answering the question, in which way the electricity exchanges gain legitimacy, empirical data has been obtained from the technical literature throughout the energy industry, documents of EEX and expert interviews with actors in the electricity industry.[4]

[4] The interviews were conducted in the period from February to August 2010 as part of the current doctoral research project with the working title "Strommarkt und Strombörse – Eine wirtschaftssoziologisch-empirische Analyse der börslichen Strompreisbildung und ihrer

1. Framework Conditions for Exchange-based Electricity Trading

Before we come to the foundation of the energy exchanges, we need to take a look at the liberalisation of the electricity market as an important precondition for subsequent developments. As early as at the beginning of the 1990s, the EU Commission had made first attempts to liberalise the electricity markets in Europe. A fundamental paradigm shift away from the "natural", local monopolies towards free competition among European energy suppliers occurred in 1998.

The efforts at providing free access to the electricity market both on the side of the suppliers and that of the consumers were backed from all sides also in Germany. The final report of the Deregulation Committee – set up by the German government – from 1991 concluded that (1) efficiency reserves would be tapped if the local and regional supply territories were abolished, (2) the prices for electricity in Germany were too high in comparison with those in the neighbour states, (3) power plants could produce at lower costs if they were not bound to restrictions in their sales territories and (4) prices were too high, as the high cash flow of the energy supply companies indicated (Bontrup and Marquardt 2010, 24f.).

In addition to improved service, the proponents of the liberalisation of the electricity market hoped that electricity prices would drop due to more intensive competition and productivity would go up while investments would drop at the same time. Despite the lack of clear empirical data, the hope was that the liberalisation of the market would actually ensure the success that had been envisaged (Brückmann 2004, 63-64).

The target of the liberalisation of the electricity market as a large European project was "*to establish the framework conditions for competition and free trade in line-bound energies*" (Konstantin 2009, 41). A liberalised market exists if the following five criteria are met: (1) every electricity consumer is free to choose their electricity supplier, (2) the electricity suppliers have separated the electricity generation, transmission, distribution and sale/trade in terms of organisation, accounting and, as far as possible, also under ownership regulations, (3) network access is non-discriminatory in the sense that the net-

Folgen für den deutschen Strommarkt" (Electricity market and electricity exchange – an empirical economic sociological analysis of the exchange-based price building and its consequences for the German electricity market). The interviews were conducted as guided expert interviews (Liebhold and Trinczek 2000; Bogner and Menz 2005; Flick 2006, 15ff.). The interviews were organised to obtain the highest possible gain of scientific knowledge about inductive-deductive interaction (Witzel 2000). Following Meuser and Nagel, the chosen interviewees were understood to be experts in the way that they are office holders within an organisational or institutional context and as such represent specific problem solutions and decision structures (Meuser and Nagel 2005, 74).

work operators grant every network user free access to the network on the same terms and conditions they grant to their own customers, (4) an independent regulatory body exists which, for example, can take action against anticompetitive practices and infringements by market participants, (5) an independent system operator ensures the smooth operation of the network (ibid., 41ff.). (In Germany, the four transmission system operators are responsible for running the networks.)

The pace and scope of liberalisation were quite different in the European member states (cf. Bontrup and Marquadt 2010, 30). Below, we will focus on the German case. Formally, the European electricity internal market directive (1996), its translation into the German energy market law (1998), the amendment of that law (2005) and the third internal market package (2009) played an important part in Germany (ibid., 13-74).

A specific feature of the liberalisation of the German electricity market is the restraint exercised by the state. Although Germany belongs with Great Britain and Finland to the first countries which realised the liberalization for power consumers, Germany and also Luxembourg were the only exceptions within the European Union not to set up an own regulatory authority (ibid., 30). These two countries counted on the self-regulation of the market. This was implemented in the form of an association agreement to which a union of key-account customers ("Verband der industriellen Energie- und Kraftwirtschaft", short: VIK) had also been instrumental. As a managing director and electricity market expert of VIK states:

> This is an absolute peculiarity. At the time of the first European internal market directive, you can say Germany afforded this option. Germany had been very, very persistent and said that we have 900 electricity network operators in Germany. This alone will set the stage for competition, so we do not need extra regulation on top of that. This was why it was included in the first internal market directive. But this had already been met with very, very much scepticism from all other corners, one must say, and then, it was 1996 and the second internal market law was in 2003. At that time, the special regulation was deleted from the law and they said it had been tried but had failed. This only creates friction with everything else that's going on in Europe and the regulatory body was made obligatory in 2003 and this was adopted in Germany in 2005. (VIK 2010[5], para 28).

Yielding to pressure from the European Commission, the "Bundesnetzagentur" was set up as a regulatory authority in 2005 (Konstantin 2009, 42). In contrast to this, Germany was not lagging behind in terms of opening the market to industrial clients and domestic customers. Together with Finland (1997) and the UK (also in 1998), it was one of the first countries within the EU to act.

[5] VIK 2010: Interview with a managing director and an electricity market expert of VIK on 31st January, 2010 in Essen.

Irrespective of direct control by the government, the go-ahead for competition came early in Germany.

At about the same time, it was suggested in Germany that organised marketplaces were a concomitant phenomenon of liberalised markets and that the opportunity of establishing such a marketplace should be seized. By the example of Saxony, this did not happen with a direct focus on exchanges but "rather along the way", when dealing with the question of how the EU internal market directive of 1998 should be translated into national law. A former business-developer of the EEX explains:

> In principle, it was triggered by the Saxon economics ministry, and the framework was because the energy law had been liberalised in 1998 and under a legal comparison they deal, because it may be a law requiring approval (by the federal states), the federal states also deal with the bills, with the process and, within this sort of analysis, they simply made some legal comparisons, said how are we going to handle this in future, how do other countries handle this and as a result of this comparison they actually found that, of course, there always were electricity exchanges in other countries. Well, and then they started asking themselves if we follow the example of other countries in liberalising the market, then an electricity exchange will be established here and it was thanks to the traditionally good relations between the state government and the then state bank that this information was carried into the state bank.' (BD-EEX 2010[6], para 27.)

Ideas like that one were tabled in many places. In addition to the project in Leipzig, concepts for electricity exchanges were being advanced at the "Warenterminbörse Hannover", the Frankfurt Stock Exchange, the "Rheinisch-Westfälische Börse" in Düsseldorf and in Berlin (Cieslarczyk and Pilgram 2006, 634; BD-EEX 2010, para 37). And even if the underlying idea of liberalisation had been to encourage competition, the Federal Ministry of Economics tried to avoid the emergence of several electricity exchanges in Germany that would compete with each other for market liquidity. Consequently, the ministry appointed a panel of experts that was to come up with a recommendation. On June 10th, 1999, the "beauty contest" of the German electricity exchange projects was held in Bonn and led to the expected result, as the expert panel favoured the GEX (German Energy Exchange, later renamed European Energy Exchange, Frankfurt) project (Cieslarczyk and Pilgram 2006, 635).

With the recommendation for Frankfurt, and with the exchange at Leipzig, the later LPX, being underway and willing to "let competition decide" (ibid., 635), all other projects were stopped. Even if GEX had come off as the winner of the contest, the decision recommended by the expert panel was not binding. Like with the music casting shows on television, those who drop out of the race may still be in for a good career. Even if the winner of the show often has a

[6] BD-EEX 2010: Telephone interview with an ex-business developer of the EEX on 30th April, 2010.

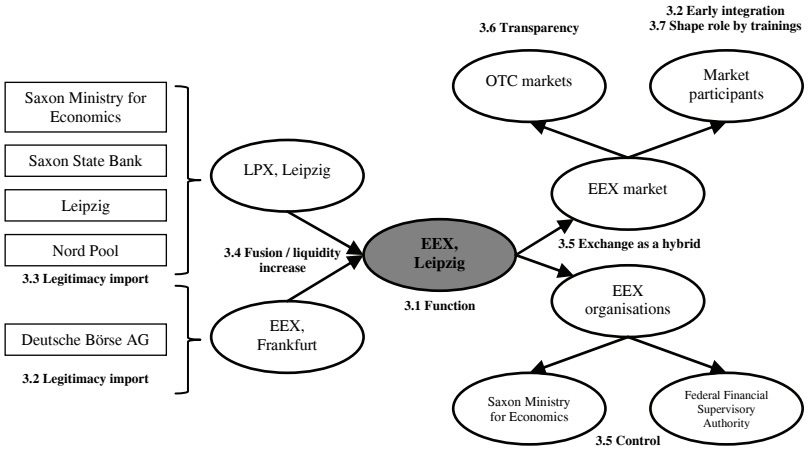
financial advantage when entering the show business, such financial benefits do not apply to our example. As will be seen later, the case of the LPX also shows that disregard for the vote of the "jury" may also benefit a contestant.

The next step for both exchange projects was to turn concepts into practice. To this end, the two projects required legitimacy in multifarious ways.

2. Gaining Legitimacy for the EEX

The proponents of the two energy exchanges employed several strategies to gain legitimacy for their projects. We will describe these strategies in detail in this section (see figure 1).

Figure 1: Legitimacy strategies



2.1 Legitimacy Qua Function

From a neoinstitutional perspective, an organisation is gaining legitimacy primarily in that it is ascribed a social function (cf. Walgenbach and Meyer 2008, 65-66). Now, the exchange, a hybrid, has an organisation *and* a market side so that in formal theory the direct application of this organisation sociological thesis is afflicted with certain obstacles. In addition to this, it primarily seems to be the market side that gives the exchange a basic legitimacy of function. According to Konstantin (2009, 44), "(a) major task of an electricity exchange is to provide all market participants – on equal terms – with a transparent, financially and technically secure market place for trade with energy products."

For the constitution of a legitimate market place, however, the organisation side of an exchange is an absolute necessity, as Baecker (1999) shows, The organisation side may seem to be of high legal relevance in the early phase of

an exchange. From the point of view of market actors the organisational structure remains a necessary attendant symptom of an organised market place which the liberalised electricity market needs so badly, as a managing director of VIK states:

> We have always been in favour of a liberalised market. A liberalised market needs an electricity exchange (...). Whether, considering our customers, the result is a positive one, whether the thing with the liberalisation went off well or whether it could not have been handled in another or a better way or so, this is a completely different matter. But when you decide in favour of liberalisation, you need an electricity exchange. Or you need a liquid wholesale market. This is most important. And to have an exchange in such a wholesale market is certainly a good thing, because the exchange is subject to some kind of control. Whether this is the right thing, this inspection at the moment and whether everything is going the way it should, is again another step or another question. In the first line, for us it means that there is such an exchange, simply as a necessary element of the way we are going and on which we are moving forward. (VIK 2010, para 58.)

In addition to the direct actors in the electricity market, actors from the field of science also second the demand for setting up an exchange, as Ockenfels et al., state in a look back: "*No liberalised electricity market can do without a multilateral trading platform.*" (2008, 60).

In addition to the – generally – legitimate demand for an electricity exchange for the liberalised market there are different possibilities for the organisation of such a trading platform:

> But the organisation around such a trading platform is different among the electricity markets. All European electricity markets are based on what is called the exchange model which is characterised by voluntary exchange dealing and decentralised market organisation and decision-making. (ibid., 60).

The setting up and operation of an electricity exchange is legitimate alone for the reason that politics, industry and science are unanimous in the demand for it. Legitimacy qua function is not so much a legitimacy strategy in a narrow sense as an advance of legitimacy based on the function of the exchange.

However, Ockenfels et al. point out that such exchanges can take on very different organisational forms, so it seems that every such exchange structure is in need of legitimacy for itself. This raises the question of how the different exchange projects were endowed with legitimacy.

2.2 GEX/EEX Frankfurt: XETRA, What Else?

Legitimacy was gained by a parallel process on two levels. Both projects were faced with the task of involving relevant actors. This, in turn, required the submission of a convincing concept. Let us look first at the concept of the Frankfurt exchange (for the following see Cieslarczyk and Pilgram 2006, 634f.). At the time after the "beauty contest", the Frankfurt project focused on

winning more shareholders and tried to adapt to the different requirements of market actors regarding products and ways of trading. To gain investors' approval, the project employed its connections with the renowned Frankfurt Stock Exchange and its global XETRA system[7]. The German Stock Exchange Group in turn signalled that it would be able to implement an electricity exchange and thereby raised the acceptance of potential traders.

This legitimacy import from the German Stock Exchange to back the electricity exchange project might have been one of the reasons why the panel of experts rated GEX as the most promising energy exchange project, despite the fact that the concept did not provide for development along the line of the Scandinavian electricity exchange Nord Pool that was already enjoying international acceptance and still met with broad encouragement. The deviation from the successful Nord Pool model referred to the sequence of setting up the spot and the futures markets.[8] Whereas the exchange pioneer Nord Pool favoured a spot market at first, to which the futures market was added after sufficient liquidity had developed, the Frankfurt project intended to start with an electricity futures market and let a spot market follow. Only after the contest and after putting the association agreement II into effect on December 19th, 1999, Frankfurt also decided to go ahead with a spot market.

Thus, the interaction between the exchange and potential market participants, such as power supply companies, energy traders, portfolio managers, banks and key-account customers, occurred already in the run-up to the actual trading activities, i.e., during the development of the trading concept. From the angle of the market participants, it can be assumed that they willingly seized the opportunity of gaining influence over the market concept on the basis of which they would be acting later. Even if market participants are not actively involved in the development of product concepts, at least their symbolic involvement remains by which the exchange can largely predetermine the expectations which market participants have of the trading processes. Legitimate objections on the part of the market participants are hardly possible once the exchange has started working because there was sufficient room for participation. Hence, by involving the market participants, the exchange predetermines its environment and in this way creates conformity.

2.3 LPX Leipzig: With Kisses from Nord Pool

While the German Stock Exchange in Frankfurt replicated its own market model, taking advantage of an established infrastructure and adapting it to the

[7] XETRA is an electronic trading system of Deutsche Börse Group (Deutsche Börse Group 2011).

[8] On the EEX spot market traders can buy and sell electricity products for the next day (EEX 2008, 4-6). On the EEX futures market traders can buy and sell qualified options and futures (EEX 2008, 7ff.).

specifics of the electricity market, the exchange in Leipzig could not rely on local know-how. However, legitimacy was imported there as well. In a first step, the proponents of the Leipzig project visited established energy exchanges and compared the different market concepts with each other. As the former business developer of the EEX states, they identified that the exchanges they looked at actually rested on the same principles as the Scandinavian Nord Pool exchange:

> Now, after the state bank had been awarded the audit order, we started running and said, well, we will just go and see how electricity exchanges in other countries look like and then people went to New Zealand because there was a fairly well-known electricity exchange there at that time, to California to the then Calpex, but also to Britain to have a look at the UK Pool, or to Oslo to get an impression of the Scandinavian electricity exchange Nord Pool. And, actually, they came back with the idea that all of them were working on the same blueprint, those electricity exchanges which, in principle, were following the line of the Scandinavian electricity exchange (BD-EEX 2010, para 34).

Furthermore, the Leipzig project did not only adopt the market model of the Scandinavian electricity exchange, but also won Nord Pool, that was interested in expansion, as an investor. Surely, looking at the high level of agreement, the exchange procedures, say, of the New Zealand exchange model could also have been adopted. But the Scandinavian model was chosen, for one, because of its high level of acceptance and, for another, because this way an influential actor was won as partner, which significantly raised the legitimacy of the LPX. The decision criterion in this case is not only who offered the best technical model, but who provided an ideal template in terms of legitimacy.

2.4 The New EEX: A 'Merger of Equals'

In 2002 the EEX Frankfurt merged with the LPX Leipzig to form the new electricity exchange EEX Leipzig.[9] As the former EEX employee sees it, before the merger, LPX Leipzig had been a leading spot market whereas EEX Frankfurt dominated the futures market. Consequently, the market participants had to go about their business in two different market places which, according to the ex-business developer, was a cause of complaints among market participants:

> And then there was that pressure from the market that they were saying, wonderful, I like the spot market in Leipzig very much, this is the way we want it, but then we do not want a plurality of exchanges with two different systems, i.e., the market partners exerted pressure on the exchanges and said, well, see that you merge, also to avoid, in the final analysis, that any foreign exchange

[9] The EEX Leipzig also organizes CO2 Emissions trading (since 2005; cf. Engels 2001; Engels 2006; Knoll and Huth 2008), trading of coal products (since 2006) and natural gas products (since 2007).

> comes and gets the better of you. In other words, the pressure actually came from the market partners, and then they sat down and discussed how can such a merger of equals be handled? (BD-EEX 2010, para 47.)

As of the media-fuelled competition between the two exchanges failed to produce a clear winner, Frankfurt and Leipzig had fought for trade, with the effect that the turnover of both exchanges remained low. This in turn limited their attractiveness for market participants, as a key-account manager of a power supply company observes: "*At the beginning, bankers tended to smile a little on the exchange because volumes were extremely low in Frankfurt. They said what do they want with these peanuts.*" (KAM-EVU 2010[10], para 101.)

An organised trading place is taken seriously only if it has sufficient liquidity. According to Konstantin, liquidity is the inalienable precondition for a successful exchange. Liquidity is a result of high sales volumes and a large number of market participants (2009, 44; cf. Borchert et al. 2006, 10).

The continuing battle between LPX and EEX prevented a bundling of liquidity and market participants in a single market place. The merger overcame this drawback and ended a race in which both contestants declared themselves to be "winners". In this way, both opponents saved their faces. None was officially blamed to be the loser in the competition. The merger was styled as a "merger of equals" to underline the equal status of the two formerly separate exchanges. The headquarters of the new exchange was set up in Leipzig, the name taken from Frankfurt, and to this date the servers in Frankfurt have also been used.

The disadvantage of the ostentatious equality of treatment of two winners is also reflected in the parallel operation of the spot trading system. For example, Frankfurt and Leipzig agreed to continue running the two former spot trading systems after the merger to EEX. But this decision was not approved by the market participants. Only when, in 2003, the change in the spot market system to the Xetra platform was announced, did the synergy immanent in any merger take effect for the exchange (cf. Cieslarczyk and Pilgram 2006, 637). Here again, the management of the new exchange responded to the wishes of the market participants in order to avoid loss of legitimacy.

2.5 Legitimacy by Approval Procedures and State Supervision

In addition to the modelling of the market, the exchange as an organisation is critical in view of its legitimacy. It should be noted here that from a legal point of view the EEX AG is the vehicle of the exchange under private law. The term EEX, on the other hand, stands for the exchange *per se* and as such for the

[10] KAM-EVU 2010: Interview with a key-account manager of a power supply company on 10th February, 2010 in Essen.

market place for the trade in energy products (cf. Cieslarczyk and Pilgram 2006, 638).

Exchanges in Germany are subject to an approval requirement and only the official approval of the Securities and Exchange Commission (SEC, "Börsenaufsichtsbehörde") enables and obliges the carrier of an exchange to set up and operate the exchange. At the same time, the approval is the constitutive legal act for the formation of the exchange as public agency (ibid., 637-638). This legal procedure provides the exchange with further legitimacy (cf. Luhmann 1983).

In fact, the exchange does not only consist of the EEX as trading platform and the EEX AG as carrier under private law, but also of a bundle of other organisations. Before the potential market participants can gather their own experience of exchange-based trading, they come to know the EEX as organisation or rather a whole bundle of organisations with their assigned functions, under a comprehensive approval procedure. For example, if an organisation wants to participate in the EEX's spot market, it needs to apply for an appropriate trading licence with the subsidiaries EPEX Spot SE and Powernext SA. Before a licence is issued, the market applicant also requires the acceptance by the European Commodity Clearing AG, the organisation responsible for the clearing business of the exchange (EEX 2009a, 2009b).

The formation of subsidiaries for dealing with specific issues is not new to the energy trade and can be observed in many industrial organisations. However, even if the formation of an abundant number of subsidiaries of a purely private industrial organisation and corporate links among subsidiaries and the parent may well be the cause also for negative connotation. In the case of an exchange, any and all reservations that remain despite the approval procedure are eliminated by the existence of several control bodies. A case in point is the formation of a trading surveillance office. The surveillance focuses the organisation of the exchange, the market places and the trade flows (cf. Cieslarczyk and Pilgram 2006, 638).

This surveillance of trade internal to the exchange, on the other hand, is tied up with external bodies such as the "Bundesanstalt für Finanzdienstleistungsaufsicht" (better known as 'BaFin', responsible for the surveillance of financial services) or the Saxon State Ministry for Economic Affairs as the responsible SEC. For example, the SEC exercises the legal supervision as well as the market and trading supervision over exchange-based trading and the trading participants (Cieslarczyk and Pilgram 2006, 639-640; EEX 2007).

A document published by the EEX in 2007 states: "*There is no other energy exchange surveilled more closely in Europe*" (EEX 2007, 4). The preconditions for the approval and operation of an exchange are not simply understood as an obstacle created by the legal administration but used as a legitimacy-gaining means in relation to the outside world.

2.6 Demand for Transparency

The functional characterisation of the electricity exchange contains one of the key requirements of an organised market place: transparency of exchange dealings. The demand for transparency relates to transparency of prices, products, volumes and mechanisms of pricing, as various experts stated (cf. PM 2010[11], paras 25, 171; VIK 2010, para 56; KAM-EVU 2010, para 175).

Transparency should not merely be regarded as an end in itself for the exchange. It is primarily a feature that makes the exchange different from the OTC market. Electricity has at all times been traded among energy supply companies and wholesale firms, irrespective of any electricity exchange. However, that trade is often said to lack transparency even if appropriate market platforms today rely increasingly on the transparent nature of the trading transactions. Due to the low level of standardisation and possibly the partners' own economic interest, details of volumes traded and prices paid are not thrown open either unconditionally or fully which, among other reasons, may be due to the competition among different suppliers (PM 2010, para 171).

As we have seen, legitimacy is always related to a relevant reference group, a legitimacy maker. The interesting question is whose transparency aims should systematically be satisfied. No doubt, transparency is important for the market participants to minimise risks and thereby transaction costs. The point, however, is, that experts in energy trade have at all times been able to do business in a market that seemed non-transparent to outsiders. The question therefore is whether transparency has not been created for actors with no involvement in the trade. This assumption is confirmed by the former business developer of the EEX:

> And, this may be the point, but I do not believe that this was essential because those who were in the markets did know the prices and OTC prices [unintelligible] are also known today and nothing is unknown. It may not be known to one or the other politician but, of course, it is transparent to those in the markets. So this is a poor point to make, it is rather one of those economic approaches that you say transparency cuts transaction costs. (BD-EEX 2010, para 71.)

In addition to politics, consumer protectors are potential addressees in matters of transparency: "*Any consumer protector can open the EEX site and can, and then will know the wholesale price. You don't need a broker platform and no informants and so on.*" (PM 2010, para 169.)

Whereas the creation of market transparency is regarded as the focal purpose of an electricity exchange, those interviewed saw this matter also critically. In the final analysis, the exchange was a profit-oriented organisation for

[11] PM 2010: Telephone interview with the CEO of a portfolio management company on 13th August, 2010.

which transparency is a point advanced as a means to the end of maximising profit. The point is that market transparency could also be achieved by ways other than the formation of an exchange:

> Yes, but you do not set up an electricity exchange for this purpose. An electricity exchange is also a commercial enterprise whose purpose is that of earning money. It was formed, as I said, an exchange is also set up under a commercial aspect and not only to offer transparency in the market. This could simply be done by a directive, that all prices have to be published somewhere or what do I know. (PM 2010, para 177.)

But the idea of the exchange as a commercial enterprise is also doubted by some, "*because in many cases exchanges simply are not real commercial enterprises*" (BD-EEX 2010, para 41). At the same time, the lucrative aspects of exchange dealings are considered, here with respect to the financial position of the regional states in East Germany:

> You simply had to deal with the issue and in doing so it was actually found that an electricity exchange can also be very lucrative. And again it is due, well, how should I say, due to the economic necessity, in the eastern German states, in particular, you have to take a somewhat more innovative approach and say actually we should open new businesses because if we remained in the available fields we would only be involved in predatory competition. And because an electricity exchange has not been discussed anywhere in Germany before, it was clear that if you took to it then you are really in a competition-free market but, in particular, you are not in a conventional crowding-out situation that is otherwise the case with industrial policy (BD-EEX 2010, para 31).

The communication of the transparency of an exchange, in addition to serving the need for reducing the cost of transactions of the market participants, most of all aims at satisfying the claims of observers who are not involved in the trade, such as, for example, politics or consumer protectors. Therefore, the communication of transparency also serves as a strategy to gain legitimacy among non-trading actors.

2.7 Selling, Selling, Selling... and Training

In addition to the actors involved in the early phase of the development of the exchange concept, it was important for the EEX to win trading partners quickly. The former business developer of the EEX explains how potential exchange participants were acquired:

> Success, customers. This is like any other commercial enterprise and this was simply the target which we were working on. The main thing both in the preparatory phase and also after the start was to win for the exchange as many participants as possible and achieve high trading volumes, a very conventional sales task. (…) Well, how you get sales going, you select companies, call them, see them, explain to them what you want to do and try to make approval procedures as simple and slim as possible, convince them of the concept and,

> through good relationship management, win them as customers. This is very conventional sales, whether you sell shoes or electricity. (BD-EEX 2010, paras 43, 45.)

In fact, according to the interview, typical of the starting phase of an electricity exchange (or exchanges) is that the members of the exchange organisation are required to carry out traditional sales activities to develop among the relevant clients the willingness to participate in trading.

Another possibility of making market participants familiar with the trading model is training, a strategy that is employed by the energy exchange. EEX does not only run training courses for employees from the trading floors of energy supply companies, brokers, key-account buyers, etc. Interested parties can also obtain certificates as trader coaches. In this way, the exchange effectively communicates its know-how among the organisations participating in the market and thereby strengthens their loyalty to the EEX. One answer to the question of how an exchange succeeds in shaping its environment according to its claims is that it educates the relevant environment for trading at the exchange and thereby develops ties with them (cf. MacKenzie and Millo 2003; Granovetter and McGuire 1998).

Conclusion

The way in which the EEX electricity exchange and its forerunners in Leipzig and Frankfurt were endowed with legitimacy was shown by the seven strategies described above. It has been understood that the electricity exchanges on the one hand clearly recognised the expectations of the relevant audiences, such as the demand for transparency or liquidity. On the other hand the exchanges strengthened their legitimacy by shaping their own environment and forged close ties with the market participants through, for instance, training and education courses. Both capabilities, the anticipation and the influencing of needs, stabilised the exchanges in the electricity market and continue to do so.

One of the key findings of sociology is that it is mainly the functions of a social phenomenon that are officially non-communicable that provide stability to it. This article focuses on several strategies in the light of officially non-communicable functions. It shows how officially communicated arguments, such as transparency or copying an existing market model, can also be interpreted as legitimacy building strategies. From this point of view, measurements that appear to serve an economic rationality in the neo-classical sense were employed to support legitimacy, which has been defined here as a relational concept.

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