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How to measure the effects of advertising communication: a research methodology overview¹

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Abstract: *This article provides a detailed overview of four different groups of measurement tools. In an attempt to choose the “most” appropriate method to analyze advertising effects, cognitive bias is presented as a disadvantage of traditional self-report measures. Alternative measures are grouped into econometric studies, autonomic measures and brain imaging. Within these groups we compare different methods that can be used in modern copy-testing and present their most important advantages and disadvantages. Next a variety of examples found in academic literature and practitioners’ publications are listed as a reference for future discussions and research. To present the practitioner side of modern copy-testing we attach the methodology of the most important research companies in this field of commercial advertising research.*

Keywords: communication effects, research methodology, copy-testing, advertising, eye movements, brain imaging, autonomic measures, body functions, self-report

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Introduction

Due to the fact that advertising is the fuel for modern services and is getting more and more complex, copy testing and pre-testing will according to Hall (2004: 2) “remain among the most controversial areas of advertising and marketing research.” At the same time Young (2004a: 11–12) claims there will be more not less advertising measurement and the shift will be towards the non-verbal emphasis. Brain researchers Ambler, Tim, Ioannides, Andreas, & Rose (2000: 17) claim that “scary as it may sound, if an ad does not modify the brains of the intended audience, then it has not worked.” But can we go beyond asking respondents what they are thinking and feeling after being exposed to certain stimuli?

To answer this question a detailed overview of academic and practitioner articles and books has given us an opportunity to discuss these issues. First a short history of the development of IT in advertising research is presented. Next we discuss the main reasons why the most popular method “verbal self-report” is not completely satisfying. Researchers call this main disadvantage of using self-report measures “cognitive bias”. Then we describe different methods that advertising research and copy-testing can use. We can summarize them in four groups: self-report, data based (data-mining), autonomic measures and brain imaging. Finally we take an overview of the top commercial research companies and their methodologies and conclude with the evaluation and reflection on methods and their relevance in today’s market research.

A short history of technology advancements used in marketing research

Computers were first used in marketing research already in 1960’s. As Rust and Espinoza (2006: 1075) conclude we have come through drastic changes in the use of computers and methodologies for computing statistical equations. Computers are used for data collection and analysis so that researchers are more and more productive in data collection and analysis. In addition powerful mathematical tools for statistical analysis and modeling of marketing phenomena have come onto the scene. Rust and Espinoza (2006:

1075) see the advantages of modern technology in two aspects: first, technology is responsible for “easier collection, storage, and use of disaggregate information and second technology offers a stronger support for managerial decision making.” Thus no one can argue that technology is changing research and the future of advertising research will be more and more related to advances in technology. Already today researchers sometimes use physiological measures (such as galvanic skin response, pupil dilation response or electro encephalograph methods) unbiased by cognitive processes. Demasio (2004) claims brain imaging is also on the raise and finally more and more data mining tools are used to evaluate effects of advertising in the first stages of testing.

Cognitive bias

Academics (see Heath and Feldwick, 2007: 13–14) and practitioners have adopted an empirical quantitative approach to the measurement of emotions relying mainly on self-reports. Verbal self-report measures are quick, inexpensive and usually do not require special expert knowledge. Typically many items, like recall and cognitive associations (unipolar or bipolar), are used because of its simplicity and the ability to measure how consumers store product information in memory. Unfortunately they have a weakness that the respondent has to process information and describe the feelings. Thus verbal measures do not always provide understanding of consumer responses when advertising is not predominantly verbal in nature (Zambardino and Goodfellow, 2007; Shapiro; Vakratsas and Ambler, 1999). Zambardino and Goodfellow (2007) claim that part of the current increased popularity of non self-report techniques comes from the fact they do not rely on our conscious verbal recollections as it is not necessary to be aware of advertising communication to have been influenced by it.

A huge critic of verbal self-report measures Hall (2004: 9) showed evidence that with traditional verbal self-report survey “until we can accurately measure the non-cognitive and emotional dimensions of advertising response, we are measuring very little of relevance.” Similarly Erevelles (1998: 208) explains a weakness of these methods, namely that both memory and cognitive activity are required to measure the affect. Thus the

main reason in favor of alternative measurement is that no cognitive activity is required to measure affect, and consequently, there is less “bias”.

Overview of the different measurement groups

In this review we present four groups of copy-testing techniques to measure reactions to advertising stimuli:

- a) self-report measures
- b) econometric studies (data-mining and other data collection methods)
- c) autonomic measures
- d) brain imaging

Self-report measures

Self-report measures are all introspective reflections about the feelings felt when exposed to advertising stimuli. By contrast, observation and sensor based measures focus on reactions that are not distorted by cognitive processes. In self-report measures both a quantitative and qualitative research design can be used and can be further divided into three groups:

- a) verbal – respondents are asked to verbally explain their emotions and opinions (e.g.: Taylor and Franke, 2003; Tylor, Franke and Bang, 2006)
- b) visual – respondents are asked to evaluate an ad using a visual scale like SAM (e.g.: Morris, 1995; Backs, Silva and Han, 2005; Lang, Bradley Cuthbert, 2008; Kaplan, 2009)
- c) movement-to-movement ratings – respondents are asked to sort a series of images according to their preferences (e.g.: Young, 2004b; Young, 2009)

Advantages of self-report measures are that they are user-friendly, quick and relatively cheap as no complex instruments or programs are required. In addition with the self report measure it is possible to report specific and discrete emotions. Finally they can be used in different situations such as laboratory experiments, interviews, questionnaires. Because of these advantages, self-report has always been the referenced method for researchers as well as practitioners.

Disadvantages include an important limitation already addressed as "cognitive bias". This means that emotions are dependent on cognitive processing and retrospective with a consequence that they disable participant's inability to report (unawareness or unwillingness). Furthermore they usually consist of a long list of questions regarding emotion adjectives and the rating can cause fatigue which can damage the reliability. Another important issue is the social desirability concern also pointed out in Poels and Dewitte (2006: 23). They argue that a correspondent's willingness to please the interviewer may not "only interfere with the valid measurement of lower-order emotions, but also with the measurement of higher-order emotions (e.g. guilt)". In addition scales can be confusing and thus create a systematic error in data collection. Also Poels and Dewitte (2006: 21) claim "respondents may also be unable to report their emotions because they are not aware about how they exactly feel, or respondents may be unwilling to report their emotions because of social desirability concerns." However despite these limitations many authors argue that verbal self-report may be indispensable and their dominant usage in academic articles remains undisputed.

Econometric studies

Many companies rely solely on econometric studies (actual measured advertising in sales results or data extracted exposure ratings). Zambardino and Goodfellow (2007: 32) see the reason why their use remains widespread in the lack of confidence that agencies and clients have in alternative (not so statistically supported) methods of evaluation influenced by cognitive interface. A good example can be seen in Outdoor Advertising Association (2009) in their Retailer Meta Analysis. Good examples are Bhargava and Donthu research on Sales response in Outdoor advertising and Färe, Grosskopf, Seldon, and Tremblay (2004) research on Advertising Efficiency and the Choice of Media Mix: a Case of Beer.

However these methods do not provide answers to the reasons of the (un)efficiency of advertising communication. As Hall (2004: 2) explains, "there are two main issues in copy testing. One is whether the ad works, and

the other is how it works. The most contentious controversies have revolved around the former issue, rather than the latter.”

Autonomic measures

The main idea of autonomic measures is to collect data at the pre-conscious level. Unlike self-report methods which require some form of cognitive processing, autonomic measures rely solely on unconscious response of a human body to advertising stimuli. Thus autonomic measures could be seen as a solution to the above described cognitive bias problem. Their key advantage is that they should measure reactions that are beyond individual's control and not dependent on cognitive processing (see also: Elster, 1998).

The main disadvantage on the other hand is that almost all autonomic measures can only be conducted in a laboratory and mainly in unnatural environment (e.g. cameras, scanners, sensors), which causes unnatural human behavior. Therefore usually autonomic measures are used simultaneously to provide cross-verification of results as in Ambler, Tim, Ioannides, Andreas, & Rose, Steven (2000) who used magnetoencephalography (MEG) to provide brain images for analysis during the exposure of advertising stimuli, electro-oculogram (EOG) and electrocardiogram (ECG). They concluded that this kind of research is feasible. However they admit that such technology would work best with existing copy-testing techniques and non verbal methods. Despite this limitation authors comment their results as being consistent with earlier neurobiological experiments in explaining the magnitude of affective and cognitive stimuli. To describe up-to-date technology we will focus on facial expression, skin conductance, heart rate and eye-tracking.

Facial expression

In his book *The Expression of the Emotions in Man and Animals* Darwin (1872: 102-122) described how facial expressions could be used to analyze emotions. Facial-change recognition in advertising and research has been around for several decades in various forms starting with Ekman in 1980's (2003a, 236) when he developed Facial Action Coding System (FACS). In FACS Ekman described in detail facial expressions that are a consequence to

certain basic emotions. The methodology is based on the fact that mechanical responses of the face can be used to read emotions (see more in Ekman, 2003b). Later Ekman coded over 3,000 individual muscular facial movements and correlated specific facial reactions and emotional states. He explained that many emotions also result in a “micro expression, in which the expression is shown very briefly, typically for only one-fifth of a second or less” (Ekman, 2003a: 237). In addition Ekman argues that micro expressions occur when a person is consciously trying to conceal all signs of how he or she is feeling (the person knows how he or she is feeling but does not want you to know). Since these beginnings facial expressions have been studied extensively. Poels and DeWitte (2006: 20) point out that facial expressions measured are in many cases too subtle to be measured by the FACS. Applying this method of behavior analysis requires specific professional experience and using the method for doing scholarly research demands more scientific approach, which is according to Sørensen (2008: 18) uncommon to find among consumer researchers. An example of observation method can be found in Jiang, Costello and He (2007) research: Processing of Invisible Stimuli – Advantage of Upright Faces and Recognizable Words in Overcoming Interocular Suppression.

Facial electromyography (HMG) was developed to provide a more precise measure of facial expressions. In facial EMG electrodes register muscle contractions and are placed on these two muscles. Because the measurement is very precise it can be used to measure facial muscle movements even without the actual changes in facial expressions. Sørensen (2008: 17–18) critiques this method as it is linked to the setting of the measurement (laboratory testing with sensors on the head of the interviewed person who can be affected by the fact that they understand they are being measured and can try to control their muscle contractions. Hall (2004: 8) claims “monitoring facial expressions, either by attaching electrodes to the face, or coding from videotapes, has been commercially applied by a few companies, such as Sensory Logic, a Minneapolis consultancy.” He argues that applying electrodes is cumbersome and intrusive, and coding from video is time-consuming, labor-intensive as well as expensive.

Skin conductance (Electrodermal reaction)

Skin conductance (SC) or electrodermal reaction (EDR) is a frequently used measure of arousal of the nervous system. Usually electrodes are used on palms and soles of the feet. Like measuring facial expressions this method requires expert knowledge uncommon to consumer researchers and is usually expensive. As explained in Poels and Dewitte (2006: 20–21) SC gives “an indication of the electrical conductance of the skin related to the level of sweat in the eccrine sweat glands.” These glands cover the whole body but are most dense on the palms and the soles of the feet. When there is more activation of the autonomic nervous system, there will be more sweat secretion and consequently a higher level of SC. An important problem with using SC are the individual variation in correspondents and situational factors such as fatigue, medication etc. as pointed out in Sørensen (2008: 17) “which makes it hard to know what you are measuring”. In addition, according to Poels and Dewitte (2006: 19), the major limitation of SC is that it “cannot determine the direction or the valence of the emotional reaction ...” and “...in advertising research the use of SC has been scarce”. Thus Sørensen (2008: 19) considers this method “interesting and useful to measure arousal but since it can only measure one dimension of the emotional experience – arousal it is necessary to combine it with other measures.” Hall (2004, 6) on the other hand claims it is the only type of physiological testing that has been extensively validated as an advertising research tool. However, in his studies, in which he measured pleasure and displeasure in order to create a normalized measure of emotional response to advertising, he added heart rhythms into statistical algorithms.

Heart rate (cardiovascular responses)

The heart speed of the observed person which is exposed to stimuli can be an indicator of attention, arousal, and cognitive or physical effort (Poels and Dewitte, 2006: 19). Hall (2004) claims that electrical heart signals are up to 90 times more powerful than those of the brain and so are far easier to read. Although previous studies seem to support that heart rate is a valid measure of arousal, valence or attention, many authors warn about interpreting heart rate results. This is due to the fact that heart rate can be a measure of attention

to commercials as well as to indicating arousal responses to commercials also shown as a quick acceleration in heart rate. As Sørensen (2008: 20) explains heart rate has been used as a method for measuring the impact of arousal on information processing capacity. It requires expert knowledge that is uncommon in consumer researchers and is time consuming and costly.

Eye-tracking

Tracking eye-movement has started in consumer research in the 1970's in practitioner research companies offering their service to advertisers. This method has a disadvantage that it only measures attention. Thus eye-tracking is especially important where attention plays a large role for example in outdoor media research and internet. A very good research can be seen in Ketelaar, Gisbergen, Bosman and Beentjes (2008) measuring attention for open and closed advertisements.

Josephson (2005, 63-64) explains that fixations last between 200 and 500 milliseconds and that 1 to 5 degrees of the visual angle of view is processed. Josephson (2005: 64) also describes three kind of information gathered from eye-tracking:

- a) fixation frequency (total number of fixations a viewer makes on an area of the visual field)
- b) fixation duration – summing the length of individual fixations on an area of the visual field. How long (generally measured in milliseconds) a viewer looks at a specific visual area
- c) fixation sequence – a hierarchical mapping that records the order in which a viewer scans the visual information

Josephson (2005: 63) thus points out three main assumptions for eye-tracking methodology:

- a) the eyes fixate on the information currently being processed
- b) the fixation time of an item is directly proportional to the processing time
- c) the eye-fixation sequence corresponds to the sequence of processing

Many researchers agree that eye-tracking data can provide one of the most valid measures. But as Josephson (2005: 63) notices up to the year 2000 only about 20 academic studies had been published using eye-tracking data in the field of advertising and marketing. The main problem of scarce research is that it also requires substantial investment in equipment and experts. As Sørensen (2008: 20) argues eye-tracking measures attention can thus be an indication of emotional reactions ...” but it is not considered relevant to use it as a stand-alone method”. To get more information on the specifics of eye-tracking methodology see Pernice and Nielsen (2009) manual *Eyetracking Methodology How to Conduct and Evaluate Usability Studies Using Eyetracking* or Duchowski (2007) *Eye Tracking Methodology – Theory and Practice*.

Brain imaging and neuroscience

Demasio, (1999: 115) a leading author and pioneer in the field of brain imaging, claims that “researchers can now directly record the activity of a single neuron or group of neurons and relate that activity to aspects of a specific mental state”. Marci (2008, 473) suggests that “developments over the past decade suggest that the gap between neuroscience and advertising is closing, and it is likely that the tools of neuroscience will be increasingly utilized by advertising and marketing researchers in the years to come.” Also Sørensen (2008: 3) claims brain imaging has contributed significantly to the progress in cognitive neuroscience and the technique has also entered consumer research in form of neuroeconomics or consumer neuroscience often focusing on emotional aspects and decision making. In addition many authors and researchers are emphasizing the importance of keeping in touch with the latest developments in neuroscience (Vakratsas and Ambler, 1999; Hall, 2001) but unfortunately the actual usage in copy testing is very limited.

Electroencephalography (EEG)

Another possibility described in Sørensen (2008: 23) is EEG – the oldest imaging method. This method uses the most widely available equipment and is thus the least expensive. It measures voltage fluctuation at brain surface. Data analysis is relatively easier than for other brain imaging methods as it only measures electronic activity on the outside of the brain (with

electrodes). Thus it can only measure the activities in the outer areas of the brain, which “makes it unsuitable for measuring emotional aspects that are situated in the limbic system in the mammalian brain” (Sørensen, 2008: 23). Despite the very limited spatial resolution it has according to Sørensen (2008: 23) a good temporal resolution making it very suitable for some studies, especially if the focus is on a moment when the action occurs.

Magnetoencephalography (MEG)

MEG measures magnetic monitors fluctuations in the brain non-invasively. Sørensen (2008: 23–24) claims it has not been applied much to consumer research because the equipment is not as common as EEG. MEG is conducted using scale electrodes attached to the scalp like with EEG but using magnetic noise, which means it must be conducted in a magnetic shield room. Although better than EEG the method is also more expensive and more complex to analyze and thus less available. It has good temporal resolution and limited spatial resolution (better than EEG). Ambler, Ioannides and Rose (2000: 19–21) used brain imaging technique MEG (magnetoencephalography) trying to connect changes in images and presented advertising stimuli. The research is a pioneer in this field. We have to agree with Poels and Dewitte (2006: 19) that up to date the use of brain this imaging technique in advertising is limited however promising it may sound.

Positron emission topography (PET)

PET is a nuclear medical imaging technique which produces a three dimensional image or map of functional processes in the brain (Sørensen, 2008: 24). The scanning is performed in a full-body scanner where it measures blood flow in the brain using positron emissions after radioactive injection. Contrary to EEG and MEG, PET has a good spatial resolution but this is on the expense of the temporal resolution which is very poor (Sørensen, 2008: 24). Due to using this sophisticated equipment PET is relatively costly and data is very complex to analyze. The method is highly invasive due to the injection of radioactive contrast. There is also high claustrophobic anxiety risk being in a full body scanner. These are the main reasons why PET is not often used in consumer research. Main research that

can be found using PET is in Demasio et al. (2000: 1049), a research aimed at investigating the neural basis of emotion and feeling (sadness, happiness, anger or fear). They discovered that such areas were indeed engaged underscoring the close relationship between emotion and homeostasis.

Another method is functional Magnetic Resonance Imaging (fMRI). This is a technique used for estimating neural activity non-invasively (unlike PET) and Sørensen (2008: 25) claims fMRI has a better spatial resolution than EEG and MEG but worse temporal resolution. The spatial resolution however is much better than with PET. The use of fMRI in research has according to Sørensen (2008: 25) increased over the last twenty years. But still experiments are performed in a full body scanner thus producing high claustrophobic anxiety risk as it is necessary for participants to lie still in the scanner for 60–90 minutes. Like other brain imaging methods this should be performed by special trained investigators as the procedure and data analysis are complex (see also Adolphs, Tranel and Demasio, 2002: 65–67).

Evaluation and reflection on methods and their relevance

In this article we have evaluated and compared four main groups of methods for copy-testing: self-report measures, data based measures, autonomic measures and brain imaging. In each group several methods were described and all methods have advantages and disadvantages.

The main advantages of self-report measures are that they are cheap and easy to conduct. No special expert knowledge is necessary to deploy them. Unfortunately they involve a cognitive intervention and thus have severe limitations. Respondents may be unable to assess their own emotions and thoughts or may be unwilling to report it (examples in Reichert and Walker, 2005). Despite this the method is still the most approachable in consumer research. If self-report is chosen, a careful consideration about scales should be made.

Many authors see a reduction in cognitive bias in non-verbal self-reporting instruments, often based on the use of visual images of emotional states. These offer potential in the field of advertising and consumer research.

Next econometric data based measures were briefly presented. These methods are very useful in assessing the magnitude of influence but cannot assess the reasons why an ad might work. They are almost always retrospective.

Among autonomic physiological measures we have described facial, body, chemical, electrical reactions on advertising stimuli. These measures were developed to be without cognitive bias and to monitor the change in the autonomic nervous system that accompanies emotions deriving from exposure. Instruments measure heart activity, skin responses, brain activity, and muscle activity. As these methods are “language independent” they can be used across different cultures. However they have major limitations. First most of them cannot measure the impact of multiple or 'mixed' emotions and are impractical for many marketing measurement purposes. Second using autonomic measures is complicated since expert knowledge and expensive operating equipment is necessary. Third many autonomic measures are limited to the measurement of arousal only and are nowhere near a replacement for traditional self-report. In the quest to provide an explanation of how advertising communication is working autonomic measures are not yet fully integrated in advertising research.

Brain imaging techniques offer a new opportunity for studying the effects of advertising stimuli without depending on cognitive processing and subject's ability to recognize and communicate feelings and thoughts. Brain imaging seems promising experimentally for Hall (2004: 8) but its ultimate utility in copy testing is difficult to assess. Different imaging methods have different advantages and disadvantages. Hall (2004: 8) also adds that the technology is developing although it has not yet become user-friendly and is still expensive and intrusive compared to traditional methods. As Hall (2004: 8) claims even with better technology “it is not clear that we are close enough to mastering the brain's “map” to allow us to definitively measure the effects of advertising, on a reliable commercial basis.” In relation to advertising these methods should not be seen as a replacement of traditional methods but as a supplement.

Conclusion

Technology advances influence many research disciplines and this is expected to be true also for measuring the power of advertising. New techniques using non-verbal measurement approaches are now being introduced and these will assist in overcoming elements of cognitive bias. However despite numerous developments in technology the measurement of this advertising effectiveness remains problematic. Both practitioners and academic researchers are still using mainly only self-reports measures which assume consumers are aware of the things that affect them at the time of purchase and consumption.

Autonomic measures have been present in consumer research for many years. They offer alternative possibilities for primarily measuring arousal but most methods are not obviously suitable for measuring the whole spectrum of emotions in advertising. They are still relatively more expensive and time-consuming than self-report and taking into account the outcome possibilities they are rarely worth the trouble.

A mutual cooperation between academics and practitioners is required in the sense that practitioners deliver advertisements that then can be (pre)tested using different instruments. Only extensive research—testing of advertisements in clean experimental designs could resolve the issues concerning the validity of predictions in copy testing. However until we can verify these new technological research possibilities in praxis as well as in academic articles and unveil the technical details it seems that it is wiser to use the traditional self—report measures alone or in combination with autonomic methods.

As Hall (2004: 9) states “any attempt to build a true science around advertising, with comparisons to norms and databases, is inherently doomed ... because creative directors are continuously engaged in an aggressive attempt to blow up the traditional models”. It may be best to conclude this article with Nancarrow, Wright and Woolsto (1998, 27), “...when opinions on methodology are divided and the type of research occurs regularly and is important, then an organization might be advised to

consider allocating part of the marketing budget to resolve the issue by experimentation or other forms of methodological research.”

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Attachment:

Research methodologies from top worldwide agencies are presented based on the Advertising Research Foundation's publication

(summarized and grouped from: Plummer et al., 2007, Young, 2004b)

Ameritest

Ameritest uses a four step procedure as a methodology to measure for copy-testing using a visual self-report method. In the first step respondents are shown one up to four stimuli (rotated in a block design) and asked to select the face that best expresses the emotions felt. In the second step respondents are asked to choose one of the three corresponding faces that match the intensity of the emotion they felt. In the third step respondents are asked why they felt that way—what triggered that emotion—using the MindReader survey tool (verbal self-report). Ameritest claim MindReader diagnostics provides the critical “why” behind the emotions felt to enable a creation of the “most” compelling ad. Finally in step four respondents are then asked to rate their responses in terms of how positive and negative the ad makes them feel on a three point scale.

Ameritest also uses two more self report methodologies called “BrainJuicer’s and FaceTrace™”. They claim to have FaceTrace™ validated as a culturally consistent measure of emotion. BrainJuicer is a survey tool used primarily for internet copy-testing. They claim their studies are very cost effective and results can be provided very quickly. In addition Ameritest is now using also the brainwave with EEG equipment technology to measure the electrical activity of the brain while respondents watch the ads (Young 2009: 43).

Gallup & Robinson

Gallup & Robinson have been famous for introducing spontaneous recall, developed in the 1930’s by George Gallup and later assisted recall introduced by Claude Robinson. All these principles were sustained in the majority of their research. Nowadays they are asking questions about both the media and the advertising. Questions about the advertising are being asked on both a delayed (24 hour) and immediate (after re-exposure) basis. In addition a company uses other cognitive-based measures including brand

awareness lift, recall, persuasion, brand attribute lift, word of mouth lift, purchase consideration lift, purchase intent lift and net promoter score lift. Emotion-based measures of engagement include imagery shift, user-brand self-image and convergence analysis.

On the other hand even Gallup & Robinson claim to understand the methodological limitations of self-report systems in terms of the emotional connection that the stimulus leaves. Thus they have developed a new proprietary system for measuring emotional engagement. They call it "CERA" (Continuous Emotional Response Analysis) and it is based on the continuous measuring of facial electromyographic (EMG) reaction to advertising stimuli, obtained via sensors attached to the facial muscles. They claim that CERA is a more powerful measure than the older physiological systems, such as skin conductance and brain waves, which essentially measure arousal and not emotional valence. In addition, they claim that CERA helps them understand how individual advertising messages contribute to a commercial's overall effectiveness, how branding moments can be maximized, and how well individual selling messages and emotional enhancers resonate with viewer (summarized from Plummer et al., 2007).

NeuroFocus, Inc.

The focus of Neurofocus is the measurement directly with the brain. Thus they are using eye-tracking, facial movement, and psychological studies to include different aspects of brain response or the consumer's expression of that response. They claim that "measuring the brain response directly avoids errors in sampling, measurement, and observation." They

- a) measure brain response to stimuli in milliseconds and create a map into the Effectiveness Coordinate System (ECS) which they claim successfully measures attention, emotional engagement, and memory retention
- b) compute wear-out profiles for ads to determine shelf life and optimize media buy patterns
- c) pinpoint precise cognitive focal points using eye tracking technology
- d) provide further validation of emotional engagement with Galvanic Skin Response (GSR).

They claim that ECS is a very accurate predictor of “purchase intent, brand lift, brand extension, price alignment, attribute attractively, click-through propensity, conversion propensity, and most importantly the contribution potential of the ad to the aforementioned key performance indicators” (summarized from Plummer et al., 2007).

TiVo Stop||Watch

An example of a large company to use the data mining system is TiVo Stop||Watch. Their Commercial Viewership Index (CVI) is calculated as the division of the average viewership of commercial by the average viewership of the program. The higher the CVI the more engaged viewers were with the commercials. Every day, logs from a stratified random sample of 20,000 digital video recorder units are archived in a database that is then cross-tabulated against as-run actual spot schedules from TNS Intelligence service (summarized from Plummer et al., 2007).

Roy Morgan

This company conducts their research in as natural environment as possible. Their “The Natural Exposure Brand Preference Questions” should determine whether consumers have changed their preferences for a brand as a result of exposure to the event. The respondent is exposed to the advertising in its natural environment (e.g. within the pages of a magazine or one of several television commercials in an ad break within an appropriate program or as part of the event). Respondents are not asked to concentrate on the advertising and are expecting to be questioned on the program or event itself. The method is despite the effort to make it as objective as possible still a verbal self-report method and cognitive bias is still present (summarized from Plummer et al., 2007).

Nielsen BuzzMetrics CGM Measurement Methodology

Nielsen BuzzMetrics begins its research with advanced text-mining and text-analytics software that work similarly to Google. However, Nielsen BuzzMetrics' data-mining software are designed to discover, gather and index CGM, as opposed to commercial, corporate, editorial or other content originating from institutions versus consumers. The software identifies the author, username, handle or other public identifier of the content, and identifies when the content was created and published. The software then organizes and standardizes the data in a relational database (with several other fields) to create the CGM reservoir, or the sample set (summarized from Plummer et al., 2007).

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Path Departure: The Internationalization of German Corporate Governance and Financial Accounting

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Abstract: *The concept of path dependence has developed into one of the few explanatory approaches to be discussed in equal measure in various scientific disciplines. Based on the change of German corporate governance and financial accounting institutions, the article demonstrates that a departure from a path often continues to be possible, even where mechanisms are in place that favor path dependence. It is to be concluded that the inclination towards continuity, which is often ascribed to path-dependent processes, easily tends to be overestimated.*

Keywords: path dependence, corporate governance, Germany, financial accounting institutions

Introduction

The concept of path dependence has developed into one of the few explanatory approaches to be discussed in equal measure in various scientific disciplines. The central idea of the concept is based on the assumption that decisions taken in the past, established ways of thinking and routines substantially restrict the potential action alternatives and thus exert major influence on the future development of technologies, institutions, organizations and entire societies. It is expected that this restriction of action alternatives can be extremely far-reaching in certain conditions – down to situations where the departure from the path becomes basically impossible. The talk about “lock-in effects” (Arthur 1989) and the illustratively convincing exemplary case of the standardized Qwerty keyboard layout (David 1985), which has outlasted time although the reason for this particular arrangement of keys has long ceased to be relevant, have turned path dependence into a plausible argument for the change resistance of existing structures and patterns.

Yet how likely is the occurrence of situations that make departure from the path impossible? Owing to the widespread popularity of the path dependence concept, one might conclude that “lock-ins” can result in a relatively large number of situations. This article aims to cast doubt on this belief.

To start with, the concept’s wide area of application raises the question of whether people always mean the same thing when talking about “path dependence”. Even if we leave more abstract physical processes out of consideration, the concept’s areas of application still range from technological subjects of study such as computer programs, nuclear reactor types and track gauges (cf. Foray 1997) down to geographical cluster formations, complex institutional configurations and processes concerning the entire society. A cursory passage through the theoretical foundations of path dependence will show that people do not always share the same initial assumptions when referring to path dependence. Instead, different mechanisms may be at work which are dissimilarly susceptible to fundamental change.

In addition, the article aims at showing on the basis of two individual cases that the high continuity inclination of the Qwerty keyboard case is strongly characterized by very specific attributes. Both the “corporate governance” regulations (Bebchuk and Roe 1999; Deeg 2001; Khanna et al. 2006, Schmidt and Spindler 2000) and the principles of financial accounting (Botzem 2010, Caron and Turcotte 2009, Kanamori 2005), which this contribution intends to compare with the case of the Qwerty keyboard, are considered in the literature as being areas of application of the path dependence concept. In reality, however, both cases show that path departure is possible despite the effect of path-favoring mechanisms. By means of the two model cases, it shall be demonstrated that variable factors such as the extent of obstacles to collective action and the availability of plausible alternatives are of central importance to the susceptibility or (from the reverse perspective) continuity inclination of existing structures and patterns.

In the following, I shall start by providing an outline overview of the dissemination of the path dependence concept and the associated extension of how this term is understood (part II). In part III, the paradigmatic case of the Qwerty keyboard layout will be analyzed and, subsequently, compared with the study cases of Germany’s corporate governance and financial accounting standards in parts IV and V. Finally, a conclusion concerning the continuity of path-dependent developments, which often tends to be overestimated, will be drawn in part VI.

Mechanisms of Path-dependent Continuity

The path dependence concept is mostly attributed to the economist and business mathematician W. Brian Arthur and the economic historian Paul A. David. Originally, the concept referred primarily to the area of technology development (David 1985, Arthur 1989, Foray 1997). The generalizing aspects of the discussion predominantly served to criticize neo-classical efficiency models. At the centre of the theory was the intention to prove that the most efficient technologies and goods respectively do not necessarily assert themselves. This also gave rise to a criticism of the market, expressed concisely by the phrase “In Qwerty worlds, markets can’t be trusted” (Krugman 1994: 235). At first, the path dependence of developments was attributed in particular to the reinforcing mechanism of “increasing returns”. Increasing returns are in place whenever a more comprehensive application of the technology (or, more generally, the increased production or increased distribution of a product) raises the benefit in a disproportionately high

manner.ⁱⁱ According to Arthur (1994: 112-113), this can be the case for various reasons including (a) high initial costs or fixed costs, which are of lesser consequence in case of larger quantities, (b) learning effects capable of contributing to the improvement of a product or the reduction of production costs, (c) co-ordination effects resulting from the opportunities for co-operation in a situation where various economic actors have taken similar decisions and (d) adaptive expectations creating a situation where a product's future use depends on its current level of distribution.

Once the requirement of increasing returns is met, Arthur argues, anomalies of selection are to be expected which do not occur in case of stable or decreasing returns. Among various alternatives, it will then not necessarily be the most efficient one that prevails. In addition, the question of which alternative eventually asserts itself is relatively open, as various points of equilibrium will result. Once a point of equilibrium is reached, however, departure from this point is hardly possible anymore (lock-in). Small and accidental events can have a strong impact and determine the selection of an alternative, as they reinforce the chosen development path. However, the condition of "increasing returns" significantly restricts the area of application of path dependencies. In Arthur's opinion (Arthur 1996), the overwhelming majority of all economic activity is subject to the rule of "diminishing returns". Arthur distinguishes between resource-based and knowledge-based areas of the economy, and considers the condition of "increasing returns" to be met only in the knowledge-based segment.

A significant extension and conceptual reinterpretation of the path dependence concept was brought up by Douglass North in the field of institutional economics. Here, it became the basis for an explanation of institutional differences at the social level (North 1990). "Increasing returns" continue to be considered as a condition, but are now provided with a new foundation by North's reference to institutional interdependencies: "In short, the interdependent web of an institutional matrix produces massive increasing returns" (North 1990: 95). Interdependence of the "institutional matrix" leads to institutional persistence trends and the stabilization of diversely efficient institutional systems not only in specific cases, but generally. This has a major impact on what is considered as path-dependent development. From North's point of view, path dependence is no longer only about a reproduction of the identical (e.g. confirmation of the ever-identical Qwerty keyboard standard),

but also about gradual change. North considers institutional change to be a permanently ongoing incremental process initiated by individual actors and organizations, with the impulse for change originating from the self-interest of actors and competition among the organizations. According to North, however, innovative learning always remains limited, as the behavior of actors takes its bearings from the existing institutions and their “mental models” are decisively shaped by the past (North 1998: 252).

North’s idea of institutional interdependence was taken up and further developed within the context of the social sciences. For instance, it is claimed in the research on “Varieties of Capitalism” (Hall and Soskice 2001, Hall and Gingerich 2009, Schienstock 2011) and in the network-oriented innovation research (Ferrary and Granovetter 2009) that the efficiency of institutional attributes is positively influenced by other institutions. The complementarity of institutions leads to institutional clusters, in which fundamental changes would cause a loss of the efficiency-raising complementarity effect. This fact supports path-dependent stability of the entire cluster. Complementarities can gain a self-reinforcing character, since actors take their bearings from the already existing institutions and adapt their strategic behaviors to the “logic” of the institutional cluster, which can therefore be strengthened and carried on (Zysman 1994, Thelen 1999: 392-394).

In addition to “increasing returns” and complementarity, the quasi-irreversibility of event sequences is also being discussed as another causative factor of path dependence (Arrow 2003, David 1986, Pierson 2000, Rueschemeyer and Stevens 1997). Sequences can be regarded as a path-shaping mechanism, since the chronological order of events sometimes influences the outcome of these events in a significant and hardly revisable way. Depending on the sequence of events, developments can take a different course (Bassanini and Dosi 2001) so that, for reasons of the different sequence alone, critical junctures can arise from which onwards the paths branch out (Collier 1993). Mahoney (2000) also considers so-called “reactive sequences” as cases of path dependence. The latter are in place as soon as events in a reaction chain trigger further events. In such a case, there is an extremely strong causal connection between the individual events, meaning that the next respective event follows necessarily from the previous one.

Tab. 1: Overview of mechanisms capable of causing path-dependent continuity

Mechanism	Logic of Continuity Assurance	Destabilization Options
Increasing Returns	Self-reinforcing effect	Adaptive expectations against what is established; transaction costs of change low and/or assessable; transition to “decreasing returns” because of environmental changes
Sequences	Quasi-irreversibility of event sequences	Counter-sequences with a reversing effect; discontinuation of reactive sequences
Functionality	Specific functions and purposes, systemic requirements	Externally caused changes to the functional requirements; significant ancillary effects, replacement by functional equivalents
Complementarity	Interaction effect	“Domino effect” as a result of partial change, which takes place nevertheless; cancellation or loss of the complementarity effect’s relevance
Power	Assurance of power	Generation of countervailing power; infiltration, conversion and layering
Legitimacy	Belief in the legitimacy of existing structures, sanctions	Diverging interpretations and traditions; de-legitimization because of contradictions
Conformity	Relief of the need to take decisions, mimetic isomorphism	Assertion of a new guiding principle

Source: Beyer 2010

Owing to the very similar argumentation of institutional economics research and historical institutionalism, a significant interrelationship and synthesizing fusion of theoretical discussions has resulted since the 1990s in the area of sociological research and political science (cf. Thelen 1999). This

has led to a further extension of the reasons given for path-dependent developments. Now, function-, power- and legitimacy-based reasons are likewise considered as reproduction bases of path dependencies (Mahoney 2000, Pierson 2000), as is the compliance with shared guiding principles and action scripts (DiMaggio and Powell 1991, Scott and Meyer 1994, Thelen 2003). In the latter case, it is the high level of uncertainty associated with any deviation from the existing guiding principle that favors path-dependent conformity along the lines of the prevalent guiding principles.

The spectrum of reasons given for path dependence is hence pretty large (cf. Table 1). Any reference to “the path dependence” of developments therefore does not constitute an unequivocal explanation. Considering this variety, specification of the respective underlying continuity-ensuring mechanism appears to be required. Depending on the underlying reason, assessments of the opportunities for change also differ significantly. Within this context, a number of authors strongly emphasize the existence of “lock-ins”. For instance, it is of extremely great importance to Paul A. David and W. Brian Arthur, the two pioneers of the theoretical proposition, to prove – in the framework of their criticism of economic efficiency concepts – that economic efficiency gaps can be resistant not only in the short term, i.e. as a transitional phenomenon, but also in the longer run. In the more recent debate, authors also hold that the formation of a path is not completed until a lock-in situation has arisen, which can no longer be actively unlocked by the actors (Schreyögg et al. 2011, Sydow et al. 2009).

In the institutional economics approach developed by North and its various socio-scientific extensions, concepts of the transformation ability have shifted towards an assumed incrementality of path-dependent processes. In this understanding, change is limited, but not blocked altogether. Accordingly, the objective is not so much to explain the persistence of suboptimal conditions, but rather to give reasons for lasting differences (such as the variety of economic systems, welfare state worlds etc.) and differing path trajectories.

In some recent articles, the active shaping of paths is also considered possible. For instance, Garud and Karnøe (2001) act on the assumption that actors are capable of creating paths and mindfully deviate from already existing paths. Beyer (2010) refers to possible destabilization options, which can lead to departure from the chosen path depending on the underlying

mechanism of path-dependent continuity assurance. According to these considerations, a path based on “increasing returns” can come to an end if the anticipated advantage of a path change appears to be large, if transaction costs of the transition are considered as low and if “negative” adaptive expectations arise, which nullify the self-reinforcing effect or drive this effect into another direction (Katz and Shapiro 1986). A path based on complementarity may end abruptly if the complementarity effect vanishes due to the change of an element. Furthermore, fundamental change can occur because the possible advantage becomes less relevant or because the complementarity itself is cancelled by intervening factors. Path dependencies based on sequences are susceptible to counter-sequences with an overlaying or cancelling effect. Path dependence on the basis of functionality can be changed by means of functional equivalents or entirely discontinued where the systemic context is called into question. As far as purely power-based path dependencies are concerned, the impression of deterministic unchangeability is likewise completely inappropriate from this point of view. Here, change-oriented action can aim for instance at the formation of countervailing power, infiltration or the assertion of institutional additions (Thelen 2003). Legitimacies can be deliberately called into question by actors, and conformity-based path dependencies can likewise come under pressure for change if actors try to assert themselves with new guiding principles. Considering the variety and differentiation of underlying reasons for path dependence, paths appear to be more or less susceptible to fundamental change, with the degree of susceptibility depending on which mechanism is responsible for the path dependence (cf. Beyer 2010).

Given the variety of discussed mechanisms and conceptual variants, case-related examinations are therefore generally required to look into the causes of path dependence and the consequences associated with each respective cause. In the following, a systematic comparison shall therefore be drawn between the Qwerty keyboard layout and two further established examples from the path dependence debate. The two contrasting cases of corporate governance and financial accounting differ from the example of the Qwerty keyboard layout through the fact that, over the past years, there has been a departure from the previously existing path. By means of the comparison, the particularities of the Qwerty keyboard case shall be illustrated and possible reasons for its difference from other path dependence cases shall be emphasized.

The Paradigmatic Case of the Qwerty Keyboard Layout

The Qwerty keyboard layout is considered as the paradigmatic example of path-dependent standardization. Today, the reasons once militating in favor of the specific keyboard arrangement have long ceased to be relevant. In a “trial and error” procedure, the letters were arranged in such a way that mechanical blockage in type bar typewriters could be reduced. Some letters in the top row owe their positions to the circumstance that, for marketing reasons, manufacturers wished to put the word “typewriter” on paper as quickly as possible in the framework of typewriter presentations. By contrast, ergonomic reasons only played a secondary role in the construction of the keyboard layout. As a result of technological development (e.g. spherical head typewriters, computers), a replacement of the Qwerty standard would have been the expected option considering the fact that other keyboards are more suitable in ergonomic terms for the entry of text. Nevertheless, rationality considerations still support a continued use of the Qwerty keyboard to the present day.

For any individual user of text entry keyboards, the existence of a standard keyboard layout represents an advantage (Thum 1995), as the arrangement of keys which he will find in different places is always braced to comply with his own learning background. For users of the Qwerty keyboard, adherence to the existing standard is rational in economic terms as long as the ergonomic advantage of another keyboard layout does not surpass the benefit of standardization. On the other hand, this implies that the individual benefit for users could be increased through collective agreement on a more ergonomic standard keyboard layout. In principle, continued use of the Qwerty keyboard, which is attributable to path dependence, could hence be terminated by means of collective action. The fact that is highly unlikely to happen though, directly relates to a well-known problem associated with any collective action (Olson 1971). Each individual actor is well-advised not to participate in the changeover to an ergonomically more advantageous standard, as the successful changeover does not depend on his / her action alone. The significance, which his / her own contribution would have to the changeover, would be only very low. By contrast, the risk that a switch of standards fails is extremely high. In the event of failure, the changeover expenditure would not have paid off and instead be lost irrecoverably (sunk costs).

This applies to all actors even though the respective starting situations differ: the decision-making situation of actors not having learned any keyboard arrangement so far is shaped by the past only to a relatively low extent. Here, only the collective past matters – since the decisions of other actors have led to the establishment of the Qwerty keyboard as the generally accepted standard. The decision in favor or against another keyboard layout is not influenced though by an own, previously taken decision in favor of the Qwerty keyboard. As a result, these actors would benefit substantially more from the advantage of a new standard than actors who have already learned the Qwerty keyboard layout, as they would not have to make the effort of re-learning. Nevertheless, rationality considerations indicate that they will either wait and hope that other actors implement the changeover (free rider position) or go along with the old standard. This applies at least as long as the actors do not attach more importance to the ergonomic advantage of another keyboard arrangement than to the standardization advantage of the Qwerty keyboard layout. The decisions, which actors usually take in an isolated manner, promote a choice in favor of the established Qwerty standard and hence continuous reproduction of the status quo. On the basis of rational considerations, actors who have already learned the Qwerty layout standard should be even far less prepared to make any contribution towards changing over to a new standard. In case of a change of standards, their overall expenditure would be higher, as they would have to learn another keyboard arrangement. In addition, their “sunk costs” would likewise be higher in the event of failure.

The situation is aggravated by the fact that individual actors are hardly able to avoid the problems surrounding collective action. In other cases, in which externalitiesⁱⁱⁱ play a role, there is the possibility of goods being procured in advance by individual actors, who wish to develop new sources of income or – in the event of mere public goods – simply accept that others too are enabled to use the procured commodity free of charge (Olson 1971). With regard to the Qwerty keyboard layout, this possibility has been brought to the discussion by Liebowitz and Margolis (1990: 4): “Adherence to an inferior standard in the presence of a superior one represents a loss of some sort; such a loss implies a profit opportunity for someone who can figure out a means of internalizing the externality and appropriating some of the value made available from changing to the superior standard.” Therefore, the previous disinterest of actors capable of internalization in changing the standard is regarded by Liebowitz and Margolis (1990) as an indication that

the inefficiency insinuated by adherents of the path dependence thesis is questionable and actually belongs to the realm of fairy tales and myths.

However, a more far-reaching internalization of costs by individual actors would by no means solve the main problem. The latter consists in the fact that, in any event, a very large number of actors would be required to call the Qwerty keyboard standard into question or even replace it with a new standard. A large actor capable of internalization such as a company with many secretaries is basically able to finance the purchase of new keyboards and training courses for its employees, hoping that the changeover will pay off in the long run. Yet without the understanding and willingness of employees to take part in training courses in order to learn another keyboard arrangement, such a project would be doomed to failure nevertheless. Even where a large part of the costs to be spent on changeover to a new standard could be internalized by an actor with corresponding profit-making interests, everybody learning a keyboard arrangement other than the previous standard layout would still be exposed to an individual risk. If the changeover to a new standard fails to succeed, actors who continue working with the new keyboard layout will either miss out on the advantages of standardization or need to return to the old standard and hence face the burden of repeated (re-)learning.

Beside dependence on the collective action of many actors, there is a second high hurdle militating against departure from the Qwerty keyboard layout: the lack of alternatives. The keyboard arrangements previously having competed with the Qwerty layout have been eliminated almost entirely. Still on the market is the "Dvorak" keyboard layout, which Paul David (1985, 1986) described in his essays as an example of the ergonomically advantageous alternatives unable to assert themselves. This explicit reference by David is likely to have secured a certain niche existence of this keyboard layout even though empirical evidence supporting the ergonomic superiority of this layout, patent-registered in 1936, has been doubted (Liebowitz and Margolis 1990: 8-17). Furthermore, there are several other keyboard layouts, which have been patent-registered not quite as long ago such as the "DataHand Ergonomic Keyboard" or the "Orbitouch Keyboard". However, they are likely to have found significantly less users even than the already very uncommon Dvorak keyboard.

Even among the established technological examples aimed at illustrating the effect of path dependence, this almost complete elimination of alternatives represents an exception.^{iv} In most cases, there is at least one serious competitor left, or alternatives have been able to establish themselves against the standard in certain niches of a considerable size. Although the VHS standard had largely asserted itself in the struggle between Betamax and VHS over who would set the video standard for private users prior to the replacement of the video technology, professional video productions did make use of the Betacam technology, which represented a further development of the Betamax system that had previously been eliminated from the home video segment (Olleross 2003). As far as the drive units of motor vehicles are concerned, there are today – despite quick limitation of the first motor vehicle drive types – not only the spark ignition engine and the Diesel engine, but also hybrid drives and electric engines, which have both found their own fields of application and, in the meantime, are considered as having even better future prospects than the spark ignition engine (Dijk and Yarime 2010). In case of sockets and track gauges (Puffert 2000), differences continue to be in place as different standards have asserted themselves at the level of the various individual countries.

A lack of alternatives has significant consequences: due to widespread use of the Qwerty keyboard layout, there is a high probability that other text entry keyboards will not be taken into any consideration whatsoever by new users. A deliberate decision in favor or against a keyboard layout does not take place, since the available alternatives are completely unknown to many potential users. With their product advertising, the manufacturers of other keyboards layouts systematically address users^v who search for an alternative on their own initiative (e.g. because they suffer from health problems attributable to the use of a computer or typewriter), since they are unable from the outset to acquire the group of new users. The low popularity of alternative keyboard layouts also brings about that possible developments capable of favoring a changeover remain largely undiscovered, as they do not become public.

Due to the extremely low visibility of alternatives, all the indications are that most potential users will expect the Qwerty keyboard layout to remain the standard well into the future. The considerable significance of projections on the future and adaptive expectations for the path dependence of developments has been pointed out by Katz and Shapiro (1985). The

widespread expectation that an established standard will also prevail in the future can turn into a “self-fulfilling prophecy” (Merton 1948). The purchase of an alternative keyboard is associated with the sizeable risk that, before long, its manufacturer may cease production because there was not enough demand from customers for the alternative product. If many customers expect that they might not be able to get replacement for a keyboard in the future and hence shrink from such a purchase, this can lead to a situation where the manufacturers of alternative products are indeed forced to cease production sooner or later.

The aforementioned high hurdles to change are a direct consequence of the underlying continuity-ensuring mechanisms. In his characterization of the Qwerty example, Paul David (1986: 41-45) himself has referred to several of these mechanisms. In fact, several of the mechanisms mentioned in part II are at work at the same time. Along with the self-reinforcing “increasing returns” mechanism, complementarities (or, as David puts it, “technical interrelatedness”) and sequence-related effects (“quasi-irreversibility of investment”) also contribute to the continuity assurance. The interaction of these mechanisms has created conditions, which are highly unfavorable for any successful re-orientation towards a new standard. The large number of actors, who would be required for a change of path, but have every reason individually (i.e. without joint collective action) to adhere to the existing standard, in combination with the factual lack of an alternative, of which most actors are aware, result in a constellation that rules out fundamental change not entirely, but with a high degree of probability.

The First Reference Case: Corporate Governance Within “Germany Inc.”

In the area of corporate governance, the past was characterized by major national differences in terms of institutional configuration. For instance, distinctions were made between shareholder- and stakeholder-oriented systems, outsider-controlled (financial market control) and insider-controlled (bank control) variants as well as between monistic-interest and pluralistic-interest systems. While the durability of these institutional differences was explained on the one hand by direct reference to the path dependence concept (Bebchuk and Roe 1999, Deeg 2001, Schmidt and Spindler 2000), individual path-shaping mechanisms such as the complementarity of institutions have also been made responsible for the phenomenon of historical continuity (Hall and Soskice 2001). Over the past years and decades, however, differences between the various economic

systems in the field of corporate governance have been strongly challenged by internationalization processes and associated government regulation measures (Beyer and Höpner 2003, Höpner 2007, Lane 2003). At least as far as Germany is concerned, there are strong indications that a break with the past and departure from the once chosen path has occurred. In this respect, corporate governance can be regarded as a contrasting case in opposition to the Qwerty example.

The subject area of German corporate governance regulations differs from the Qwerty keyboard case in respect of the hurdles to collective action as well as with regard to the availability of alternatives. This can be illustrated by means of the corporate cross-ownership structures regarded as the “institutional nucleus” of German corporate governance prior to the dissolution of “Germany Inc.” (Heinze 2004, Höpner and Krempel 2004). As in the Qwerty case, the analytical starting point is a constellation of actors, in which externalities are at work. A company integrating itself into the network of corporate cross-ownership is able to benefit from this integration as long as several other companies are likewise integrated into the network. Ultimately, however, it cannot control this constellation. By contrast to the Qwerty keyboard layout, however, the self-reinforcing effects caused by externalities were probably far less comprehensive, as integration into the corporate network was never as widespread as the use of Qwerty. Even in the heyday of Germany Inc., many companies including several large corporations were never part of the cross-ownership/interlocking directorates network (Windolf and Beyer 1996).

The isolated companies differ characteristically from the interdependent ones. For instance, the equity capital ratio of the non-interwoven companies was significantly higher than that of the interdependent companies (Beyer 1998: 154). This indicates a behavioral option, which had limited the reach of self-reinforcement to a certain group of companies: in principle, the companies were free to choose between different strategies in terms of their financing behavior, which were each associated with a number of specific advantages and disadvantages. The advantages of outside capital are good scalability with regard to volumes and maturities, short-term realization possibilities and favorable tax treatment. By contrast, equity capital financing is more crisis-resistant, the outflow of liquidity can be better controlled and dependence on a credit grantor can be avoided. Apparently, integration into the cross-ownership network was able to improve the

companies' access to (low-interest) outside capital in Germany's bank-dominated system. Those companies, however, which strongly relied on equity capital financing, had no or at least less reason to join the network.

In addition, the opportunity to regulate competitive relationships also created an incentive for cooperation. In the past, the embeddedness of actors achieved by means of cross-ownership and interlocking directorates was able to generate a cooperative climate among the interdependent companies, which led to a higher level of competitiveness in comparison to the isolated companies. Considering this reason for cross-ownership, however, the self-reinforcing effect based on externalities could yet again apply only to a certain number of companies. Whereas some industrial sectors are dominated by a few large corporations, which taken together hold a large market share, other sectors of the economy are more fragmented. In case of high fragmentation, coordination is more difficult to realize, so that possible thresholds for the initiation of a self-reinforcing process are less easy to surpass (Granovetter 1978). Empirical research on the cross-ownership and interlocking directorates indicates the existence of such thresholds, as its results show a clear correlation between the intensity of cross-ownership/interlocking directorates and economic concentration. In industrial sectors with lower degrees of concentration and higher fragmentation, sectoral cross-ownership densities were significantly lower (Beyer 1998: 180, Windolf and Beyer 1996).

Compared to the Qwerty keyboard, the effects of externalities were hence significantly more limited. An all-embracing "increasing returns" effect was not in place. Subject to intended rationality conditions, similar behavior did not suggest itself to the companies in the same way as in the Qwerty keyboard case. Instead, a relatively large part of the companies pursued alternative options. This implies that the continuity of network-based corporate cross-ownership/interlocking directorates always depended on the companies' coordination willingness and never reached the degree of implicitness, with which the users of computers and typewriters became and continue to become users of the Qwerty keyboard layout.

Another difference from the Qwerty keyboard layout is the differentiation of actors. The typical characteristics of the German corporate network did not only include an intensity of cross-ownership and interlocking directorates, which was remarkably high in international comparison, but also the

existence of an interdependence centre, into which the largest and most important corporations were integrated (Heinze 2004, Windolf 2002). The degree of integration into the network hence varied between the individual companies.

Strongly centralized networks with high density levels hold an advantage in terms of collective action (cf. Marwell, Oliver and Prahl 1988). However, this coordination-facilitating constellation of actors also means that continued existence of the network-based corporate governance system depended in a particular way on a relatively small group of companies, i.e. the very closely interdependent companies of the centre. A hierarchically structured interdependence network is relatively well-protected against “random shocks”, as could be shown in an analytic modeling designed by Bruce Kogut and Gordon Walker (2001). The structure of the network remains intact even if, according to random logic, individual companies are removed from the network. If, however, the most-interdependent companies are removed one after another, such a structure is threatened with disintegration already after very few moves of this kind.

Since the group of very closely interrelated companies was additionally differentiated into borrowing and lending companies, the withdrawal of a small number of companies because of corporate strategy reasons could turn into a factor threatening the continued existence of the entire interdependence structure and call the whole network-based corporate governance system into question. This is precisely what has eventually happened. Many of the previously most strongly interrelated German industrial companies changed their corporate strategies in favor of stronger orientation towards the international capital markets (Jürgens et al. 2000), and the large German financial corporations abandoned their former credit bank approach and reorganized risk protection of their lending activities in such a way that it no longer required corporate cross-ownership.viii

Moreover, the network structure was not only susceptible to corporate strategy readjustments, but also to political decisions. The design of company, capital market and tax law exerts influence on the cross-ownership behavior of companies both directly – in various countries, individual forms of interdependence are completely prohibited –, and indirectly for instance if, as has happened in Germany, the sale of shares in corporations is favored by means of new tax legislation. From the mid-1990s

onwards, several legislative measures have been implemented (Financial Market Development Act 1994, Corporate Sector Supervision and Transparency Act 1998, tax reform 2000/2001, Securities Acquisition and Takeover Act 2002 etc.), which further boosted the already ongoing dissolution process of the corporate cross-ownership system. In the political opinion formation process, company law questions were of a rather marginal importance so that, once again, a relatively small circle of persons were responsible for the implementation of changes, which contributed to a fundamental change of the German corporate governance system (Cioffi 2002).

Beside the dissimilar constellation of actors, another difference from the Qwerty keyboard layout lay in the fact that there was a consistent alternative model to the German network-based corporate governance system, which was available as a point of orientation and comparison. In the Anglo-American context, an understanding of corporate governance has developed, which focuses on the relationship between the company's shareholders and its management. Interests in the company other than those of the owners are regarded as secondary. To reduce or even solve the shareholders' supervision problem, the Anglo-American system basically relies on the commitment to transparency, which is imposed on the companies on the occasion of their IPO, and on the disciplining power of the capital market. Based on the assumption that a company's equity price reflects all publicly accessible information on the current and future earnings potential of this company, the equity price development is regarded as an indicator of the management's performance. Therefore, a close link between this indicator and for instance the management remuneration, corporate financing and the company's independence is aspired.

Practice in the Anglo-American market has adapted itself to this understanding of corporate governance. Performance-related stock options as an important component of management income are supposed to signal a high level of compliance between the interests of the owners and the management (Levmore 2001). External capital procurement by means of corporate bonds complies with the expectation that stock markets will only make financial means available to unsuccessful companies at increased capital costs, and the sometimes "unfriendly" takeover activities of the so-called corporate governance market are seen as legitimate competition

between different manager teams struggling for the right to control a company's resources. Moreover, the Anglo-American economy is characterized by a very high level of stock market capitalization; share holdings are broadly diversified (La Porta et al. 1999), personal and especially capital interdependence between companies is comparatively low, and banks are largely excluded from the immediate ownership of non-financial companies. Nevertheless, the Anglo-American banks specializing in capital market-related services have achieved a globally leading position.

For Germany's large-scale banks, the success of these competitors was an essential trigger to reflect on a strategic reorientation. For the political reform considerations, not least the strength of the American economy and the regained strength of the British economy were of major significance. The existence of a consistent counter model, which could be credited with better micro- and macroeconomic results, substantially boosted the process of dissolving Germany's network-based corporate governance. Now, corporate interdependencies came under pressure to justify themselves. They were put on a level with intransparency, banking power and not market-conforming conduct, whereas the Anglo-American corporate governance model was considered as providing higher standards of supervision at least until a series of scandals such as the Enron scandal occurred in the United States (Windolf 2004).

Probably, the historical continuity of dense corporate networks in Germany was based on several continuity-ensuring mechanisms. Since the self-reinforcing effect of externalities did not reach the extent of the Qwerty keyboard case, continuity always depended on the companies' coordination willingness and ability. Initially, it was probably a widely accepted normative orientation to the national public good, which provided the basic motivation for the necessary coordination willingness. Later, this motivation was replaced by the guiding principle of the social market economy, into which the coordinative elements of German corporate governance were integrated. In the heyday of the "German model", complementarities between the different economic spheres may also have played an important role (Streeck 1997). Ultimately, however, the assurance of continuity was probably dependent primarily on continued economic success. After this success failed to materialize in several crisis-stricken periods since the 1990s, the coordination willingness of those actors, who were of relevance to the assurance of continuity, was no longer in place either. By contrast to

the Qwerty keyboard layout, which can likewise be attributed to various continuity-ensuring mechanisms, the various mechanisms underlying the continuity of German corporate governance do not seem to have mutually strengthened one another. Instead, they presumably replaced each other. Continued consolidation of the cross-ownership/interlocking directorates structures, which would have corresponded to the Qwerty keyboard layout, did not result, but only a kind of continuity which was comparatively susceptible to fundamental change.

As is shown by a comparison with the Qwerty keyboard layout, corporate governance along German lines was far less immune against fundamental change. It was not required for a very large number of actors to call the status quo into question jointly or in a coordinated way. Instead, it was sufficient that a number of major actors performed a change of orientation. In addition, the corporate interdependence could be called into question from various sides, i.e. both by the companies and by political actors. Since a consistent counter-model was also available, the uncertainty of replacing an existing guiding principle with a new one, from which actors could take their bearings, was reduced. Departure from the status quo was favored because the counter-model promised greater economic success at the time when the old model was called into question. To certain actors, who were of central significance to the overall system, departure from the behaviors and strategies of the past seemed to be a promising prospect. At this time at the latest, the institutional environment no longer acted as an “adverse environment” (Jürgens et al. 2000) for deviating strategies. Instead, actors could expect to benefit from breaking with traditions and performing a change of orientation in favor of the Anglo-American corporate governance model.

The Second Reference Case: Financial Accounting Standards

The second reference case, i.e. the standardization of financial accounting, is likewise characterized by similarities to the Qwerty keyboard layout, so that this case is also regarded as a typical example of path-dependent processes (cf. Botzem 2010, Caron and Turcotte 2009, Kanamori 2005). As in the corporate governance example, however, the hurdles to path departure were lower. In Germany, path departure by the capital market-oriented companies finally took place in 2004 with the Accounting Law Reform Act (BilReG). Instead of drawing up their balance sheets according to the previously applicable criteria of the German Commercial Code (German

GAAP/HGB), these companies are now required to draw up their balance sheets according to the International Financial Reporting Standards (IFRS). In this context, the Accounting Law Reform Act implemented the requirements of EU regulations, which had declared a corresponding changeover to the new international accounting standard as binding. This situation had been preceded by interest aggregation and homogenization processes on the International Accounting Standards Board (IASB) which, according to Botzem (2010: 200), initiated a self-reinforcing process since 1997 that eventually allowed legislation for the introduction of an international standard. In addition, the legislation was also preceded by the circumstance that some German large-scale corporations had already drawn up their balance sheets not only in line with German GAAP standards, but also according to international standards such as the IAS (the precursor of the IFRS regulations) or US-GAAP (Weißenberger et al. 2004).

As in the event of text entry keyboards, the existence of a standard also makes sense in principle in the field of financial accounting. Standardization allows to draw comparisons between companies and thus create transparency for the protection of creditors or in the interests of capital market actors. Once a standard has established itself, mechanisms start to work which favor adherence to this standard within the meaning of path dependence. Actors acquire competence and know-how, which would lose its worth as a result of departure from the standard. The longer a standard is established and the more companies adhere to this standard, the easier it is to draw systematic comparisons with other companies and times. As the standard continues to apply, the advantages of standard setting are likely to gain additional strength, so that interest in the standard's continuation is unlikely to decrease.

As regards both the hurdles to collective action and the availability of alternatives, however, the case corresponds rather to the case of corporate governance than to the Qwerty example, which is why departure from the path has eventually occurred nevertheless.

Among other things, it was possible to overcome the hurdles to collective action because there were several different initiatives aimed at the establishment of cross-border standardization in the field of corporate financial accounting, which interacted in a converging manner. In particular, the initiatives of the United Nations, the European Community/European

Union and the International Accounting Standards Board were of eminent importance.

In the 1970s, the United Nations launched a regulatory initiative to extend the disclosure obligations of multinational corporations (Rahman 1998). At two international conferences, the UNCTAD Conference of 1972 and the UN General Meeting of 1974, the developing nations demanded a “new economic world order”, supposed to put economic relations between the industrialized and the developing nations on a new basis. In this context, one of the primary objectives was to prevent the exploitation of raw material deposits. Accordingly, the wish to strengthen supervision of the activities of multinational corporations became a subject of debate (Ansperger 2005: 166f.). An expert commission assigned by the Economic and Social Council of the United Nations (ECOSOC) ascertained an increased need for corporate disclosure obligations and thus triggered the foundation of the working group “International Standards in Accounting and Reporting (ISAR)” under the umbrella of UNCTAD. Even though the establishment of binding obligations to disclose corporate information was ultimately prevented in the framework of the UN through the “exertion of massive influence on UNCTAD by pressure groups of multinational corporations” (Botzem 2010: 78), the United Nations initiative nevertheless promoted the idea that internationally consistent financial accounting standards were required.^{ix}

Alongside the United Nations, the European Community had also endeavored for several decades to establish cross-border financial accounting regulations. The original objective of attempts to harmonize financial accounting procedures, which started in the 1960s, was to ensure the comparability of national regulations. An important step in this direction was taken with the fourth EC Council Directive (78/660/EEC) of 25 July 1978, through which all limited liability companies were placed under an obligation to draw up an annual financial statement reflecting the respective company’s factual financial situation. Although this directive did not yet aim at a complete standardization of financial accounting principles, establishment of the “true and fair view” guiding principles still put significant legitimization pressure on financial accounting systems like the German GAAP (HGB, German Commercial Code) reporting procedure, which are focused primarily on the principle of caution and creditor protection. With the seventh EC Directive (83/349/EEC) of 13 June 1983, legal regulations for the consolidated accounts of corporations were likewise

designed to strengthen the information functions for investors. In 1990, an informal advisory body was set up at European level with the “Accounting Advisory Forum”, in which national standard-setting authorities and representatives of analysts, investors and balance sheet-composing companies prepared further steps towards setting a new standard (van Hulle 2004: 354). From 1995 onwards, the European Commission abandoned the idea of a purely European solution and henceforth supported the “International Accounting Standards Board”, the third important initiative for the development of harmonized international accounting standards (or its predecessor organization IASC).

The “International Accounting Standards Board” traces back to an initiative from the former chairman of Britain’s professional organization of certified public accountants, Sir Henry Benson. In 1966, he invited representatives of the corresponding Canadian and US professional organizations to talks, which aimed at a cross-border exchange of financial accounting practices. Initially, a “study group” was founded that published a total of 20 studies on the preparation of joint international accounting standards. In 1973, the “study group” established the “International Accounting Standards Committee”, to which the professional organizations of initially six further countries (Australia, Germany, France, Japan, Mexico and the Netherlands) were admitted. The committee, to which further representatives of national professional organizations were later admitted on a step-by-step basis, was extremely active during the 1970s and 1980s in developing various financial accounting standards, which companies were able to adopt on a voluntary basis. The so-called “International Accounting Standards (IAS)” proposed by the committee, which initially still included numerous options, was taken up especially by listed companies operating at the international level. From the end of the 1980s, the “International Accounting Standards Committee” abandoned its exclusive focus on certified public accountant associations and opened itself to special interest groups of financial market analysts (1988), the international representation of chief financial officers (1996), the Federation of Swiss Holding Companies (1995) and other capital market-oriented special interest groups. At the initiative of stock exchange supervisory authorities, various options have also been reduced since that time. Both developments led to the standards’ increased orientation to the information requirements of financial market actors. In 2001, a new organizational structure was established and the committee transformed into the “International Accounting Standards Board (IASB)”. In the

framework of this reorganization, a foundation (IASCF) domiciled in Delaware, U.S.A., was established, and financing of the IASB was placed on a new basis. This financing system is now based on the deposits of leading auditing companies, private financial institutions and industrial corporations from all over the world as well as on financial means from central and development banks and other international organizations. Ever since, the standards adopted by the IASB are referred to as International Financial Reporting Standards. This name is an indication of the claim that the composed standards do not only aim at correct financial accounting procedures, but also at comprehensive and transparent financial reporting. Ever since that time, the International Accounting Standards Board (IASB) endeavored particularly to achieve acceptance in the US and bring about convergence between IFRS and US-GAAP. In addition, standards for small and medium-sized businesses have been developed.^x At present, the European Union is considering whether these financial accounting regulations passed in 2009 shall be integrated into European law as was the case with the regulations for stock exchange-listed corporations, which the EU Commission declared as legally binding in its directive no. 1725/2003 of 29 September 2003.^{xi}

In the final analysis, interaction of the various initiatives paved the way for a departure from the national standards. Although these national standards also entered into competition with each other temporarily, the ultimately crucial development was that, backed by different motivations and interests, the idea of having to implement consistent international standards was boosted. The hurdles to collective action were lower than in the QWERTY case, as the agreement on new regulations took place primarily in relatively small groups of experts. In the end, the initiative proved to be the standard-setting one, which had originally only given recommendations and was backed by persons with similar experiences and interests (Botzem 2010). The abandonment of national regulations took place since the legally binding regulation having been aspired from the outset in the other two initiatives became realizable through these two initiatives' acknowledgement of the standards elaborated in the third group. Interaction of the individual initiatives helped to overcome the hurdles to collective agreement and facilitate departure from the previous path.

Like in the corporate governance case, it was also important that the originally applicable national regulation could be challenged from various

sides. Beside the aforementioned initiatives, the role of some large stock exchange-listed corporations was of major significance, whose early adoption of the initially voluntary standards had signaled an interest in internationally comparable regulations. The orientation of these corporations towards the international capital markets had fundamentally changed the original interests, as was already demonstrated in the section on corporate governance. Financial accounting according to international rules was considered as an opportunity to raise the attractiveness for international investors and facilitate the process of communication at the international level (Hassel et al. 2003).

Furthermore, departure from the original financial accounting standard was favored by the fact that the International Financial Reporting Standards stand in the tradition of Anglo-American accounting principles. Therefore, they could be perceived as a plausible alternative that was also partly superior to the old standard. The essential difference from the financial accounting provisions under the German Commercial Code (German GAAP/HGB) consists in the fact that the supply of decision-relevant information to investors is considered as the primary objective of financial accounting, behind which other objectives have to stand back. Insofar, internationalization of the financial accounting standards was in line with changes that were already underway in the area of corporate governance. The upcoming changes towards Anglo-American practices were complementary to one another and therefore mutually favored timely departure from the original path. The self-reinforcing effects at national level were weakened, as the reform efforts also had a mutually reinforcing effect (cf. Beyer and Höpner 2003).

Conclusion

The comparison of the model cases Qwerty keyboard layout, corporate governance and financial accounting was able to show that long-lasting continuity permits the conclusion only in very special conditions that a "lock-in" situation has arisen, which makes path dependence virtually impossible. Even where mechanisms are in place that favor path dependence, a departure from the chosen path mostly continues to be possible nevertheless. The high inclination towards continuity, which is associated with path-dependent processes, is not a general characteristic of path-dependent processes, as the following must be taken into consideration:

The limitation of action alternatives as a result of historical events or decisions is not necessarily subject to the “increasing returns” mechanism, which played a dominant role at the beginning of the path dependence discussion. The theoretical development has shown that there are various mechanisms capable of generating institutional continuity at least over certain periods of time. Over the course of time, more and more mechanisms have been associated with path dependence, so that a narrow understanding of this term was eventually replaced with a broad one. However, the mechanisms discussed differ in terms of their continuity assurance logic and susceptibility to fundamental change. Consequently, a mere reference to the “path dependence” of developments is at least insufficiently specified, since the consequences of path dependence vary significantly depending on which mechanism is in place.

The Qwerty keyboard layout is an example of how long the repercussions of historical events and decisions can last. However, it is also an exceptional case, as not only one, but several continuity-ensuring mechanisms are at work at the same time. Interaction of the various mechanisms has created conditions, which are extremely unfavorable for any changeover to another standard. Owing to the exceptional position of the Qwerty keyboard standard, any generalizing transfer of conclusions to other examples bears the risk that the continuity-ensuring impact of a path-dependent development is overestimated. Though such an interaction of several mechanisms may also occur in other individual cases, this cannot be assumed on a general basis.

Through the discussion on path dependence, the attention was drawn to initial situations, which marked the beginning of a historical development. What follows the starting point of a development, however, also differs from one case to another. This can be shown for instance by the comparison, which this article had made with regard to the problems of collective action. Depending on the strength and reach of reinforcement effects and on the underlying constellation of actors, the collective problems in overcoming the status quo differ significantly. The comparison between the Qwerty keyboard layout on the one hand and German corporate governance and financial accounting standardization on the other has shown that the problems of collective action were substantially lower in the two last-

mentioned subjects of study, since prominent actors had a relatively strong influence on either lasting continuity or deviation from the status quo.

As is shown by the two examples of German corporate governance and international financial accounting standardization, the existence of one or several alternatives capable of serving as a standard of comparison is likewise of major importance for the susceptibility of path dependence. As soon as there are plausible reasons to assume that an alternative may be superior to the existent status quo, the latter is braced to come under adaptation pressure. Institutional structures can sometimes, but not always withstand this pressure, depending on the extent of assumed superiority and on whether a sufficient number of the actors previously having guaranteed continuity have reason to change the status quo in the same direction.

In addition, it must be noted that longer phases of continuity are able to conceal dynamic developments, which are of relevance to change that will eventually occur at a later point in time. Analyzed more closely, one would probably find that different continuity-ensuring mechanisms have replaced one another in many processes perceived as path-dependent. In the event of German corporate governance, nationalism was initially extremely important as a basis of coordinated and cooperative behavior among the domestic companies. In the course of the postwar period, the reasons for adherence to the coordinated and cooperative model switched to economic success and the resulting high legitimacy of the German social market economy. Although it was still possible in the 1970s and 80s for instance to prevent takeovers by foreign companies, these remains of a nationalist approach were used up at the latest in the mid-1990s. The situation was similar in the case of financial accounting standardization, where initiatives for internationalization were partly launched already in the 1960s and brought about standardization only after several decades. Longer phases of continuity can therefore raise the impression of a state of stability (lock-in) without this actually being the case. As a result, intervening processes in the background of path dependence also constitute a reason requiring precise specification of each individual case.

Finally, another reason why path dependence is not always the same results from the complexity of what a path-dependent development relates to. Financial accounting principles or even general corporate governance

structures are far more complex than the institutionalization of a keyboard layout. With a rising degree of complexity, the number of breaking points favoring fundamental change also tends to rise. For instance, corporate cross-ownership could be called into question not only by the companies themselves, but also by the lawmaker. Regardless of this assumed tendency, the number of breaking points is likely to be variable subject to the context, leading us to the conclusion that strong differentiation of path-dependent developments is required as well in this respect.

From the perspective of actors, there are hence various starting-points to overcome path dependence or depart from an existing path depending on the particular context of action. Actors have to overcome various-sized problems of collective action, and the availability or perceptibility of alternatives also differs from case to case. If one takes path dependence seriously, the underlying mechanisms and constellations have to be decrypted. The mere statement that the past influences the present (history matters) remains trivial unless one analyzes how it does so. If one does without identifying the continuity-ensuring mechanisms and analyzing the actors' context of action, one will probably always be taken by surprise whenever fundamental change occurs.

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Endnotes

- 1) ⁱ The concept of path dependence has managed to establish itself in both economic, juridical and social sciences research (cf. Bebchuk and Roe 1999, Castaldi and Dosi 2004, Guinnane et al. 2003; Martin and Sunley 2007, Vergne and Durand 2011, Sydow et al. 2009). With a larger degree of conceptual abstraction, the term path dependence is also used in the natural sciences (e.g. Durand and Mendel 1979, Simon and Bernazzini 2006).
- 2) ⁱⁱ Cf. Arthur (1989: 125): “It is therefore not sufficient that a technology gain advantage with adoption; the advantage must be self-reinforcing.”
- 3) ⁱⁱⁱ Externalities are in place if the production and consumption behavior of an economic entity has an impact on the benefit of others without this entity being able to ensure that the others participate in the resulting costs or, conversely, having to provide them with compensation for resulting disadvantages.
- 4) ^{iv} In model theory terms, decentralized adaptation processes under the condition of increasing returns do not necessarily lead to a consistent standard either (cf. Auriol and Benaim 2001).
- 5) ^v See the homepages of alternative keyboard manufacturers: www.datahand.com, www.keybowl.com.
- 6) ^{vi} The possible advantages of cross-ownership did not result from standardization – as in case of the Qwerty keyboard layout –, but rather from coordination. In principle, however, the latter can also act as a self-reinforcing incentive, so that previously not interdependent companies are prompted to join the network because other companies also integrate themselves into the network.
- 7) ^{vii} According to Mark Granovetter, economic benefit-maximizing behavior without any social embeddedness would almost necessarily lead to a problem of order, since “...there is nothing in the intrinsic meaning of ‘self-interest’ that excludes force or fraud.” (Granovetter 1985: 488).
- 8) ^{viii} For example through the introduction of collateralized debt obligations permitting externalization of the credit risks.
- 9) ^{ix} Today, UNCTAD’s ISAR working group focuses on the introduction of the IFSR standards in the developing countries (UNCTAD 2006) and thus fosters the dissemination of information-oriented financial accounting practices. In this context, UNCTAD is also supported by other international organizations like the World Bank, which partly makes the extension of credits subject to the introduction of international financial accounting standards (Hegarty et al. 2005).

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- 10) ^x The “International Financial Reporting Standard for Small and Medium-sized Entities (IFRS for SMEs)” is an independent standard based on the International Financial Reporting Standard for listed companies. The financial accounting regulations for the balancing and valuation of assets, liabilities, earnings and expenditures were designed along more simple lines, as irrelevant issues were omitted and the number of mandatory appendix information was reduced.
- 11) ^{xi} This referred to the international accounting standards passed on 14 September 2002 with the exception of IAS 32 and IAS 39. In the meantime, the regulation has been replaced by regulation no. 1126/2008 and updated correspondingly.

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Towards the national patterns of European identification

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Abstract: *The attempt of the article is to approach identifications with European space as contemporary processes influenced by the growth of global communications, media, consumerism and popular culture. One of the goals is to present which factors influence the social processes enabling identifications with European space at the individual level. Furthermore, the authors attempt to identify the structural and cultural aspects of national social contexts, placing the main focus on the key aspects related to the formation of identifications among the European Union member states. Using hierarchical cluster analysis on a broad range of survey and statistical cross-national data, the authors argue that the aspects related to the identification with European space differ among countries in a way corresponding significantly both to the recent and deep historical differences between the EU countries.*

Keywords: transnationality, European space, identifications, hierarchical cluster analysis,

Introduction

European identity is in itself an ambiguous, variable, and not clearly formulated concept. Its meaning is attached to blurred geographic and symbolic boundaries, and it is shaped within various ideological and experiential constructions, which all contribute to its contestability. Europe as a geographic entity and symbolic imaginary has been changing its meaning due to different political interests till nowadays. One can notice that the idea of Europe serves particular interests of political elites trying to legitimise the existence of the European Union in the eyes of its citizens. As Shore [1999] said, nobody falls in love in a common market, and support and loyalty of people have turned out to be an important component of economic and political cooperation. The role of common European history, heritage and culture as crucial ingredients of European identity has thus become tightly knitted with the project of more successful integration. Various endeavours in constructing collective European identity are thus a project, which Katzenstein and Checkel [2009] describe as a political one; a task of the elites operating at European and national levels. Herein, the political efforts are not at stake, while the attempt of the article is to focus on the actual factors influencing identifications with the European Union. While there is a social category of national collective identity, we believe that no such thing exists on the European level. We ensue from the presumption that particular social processes on supranational level enable identifications with European Union and common European space, but are not yet a collective feature of all citizens. Beside that, in order to examine the processes of European identifications, one needs to focus more on action and interaction than just on feelings of belonging and belief [Petithomme 2008]. In that light, we assume that important role is played by actual daily or regular practices and activities on the European level. As Favell argues, being European is as much likely to be about this, as it is about shopping across borders, buying property abroad, handling a common currency, looking for work in a foreign city, taking holidays in new countries, buying

cheap airline tickets, planning international rail travel, joining cross-national associations. What seems to be important are actions facilitated by the European free movement accords [Favell 2005: 1113].

Our attempt is therefore to approach European identifications as contemporary processes influenced by the growth of global communications, media, consumerism and popular culture. Alongside the growing awareness that globalisation, transnational economic, political and social flows, and expansion of mass media, have changed the modern world, more discursive approaches and the meaning of self-representations undermined the ideas that social location determines the subjective identity [Bottero, 2010]. Traditional conceptualisations of cultural and social world no longer offer a sufficient explanation for identity related processes, and the notion should be conceived more in terms of fluidities of time and space [Rapport and Dawson 1998]. Therefore, it seems to be more appropriate to talk about identification as a process of constant (self)-recognition rather than about an identity as a static “property of the individual” [Hall and Du Gay 2000, 16]. Nevertheless, in constructing self-identification, particular external factors still seem to be the most influential. In order to explore identifications with the European Union, it is important to take into account the cultural, social and political horizons influencing the variety of pre-existing dispositions in people’s reality. As Bottero argues, we have to take into account the dialectic relationship between the reflexive, collective and dispositional components of the identification processes. In the efforts to explore European identifications, it is important to consider “the intersubjective nature of practice, and the concrete ‘calls to order’ that arise from networks of variously disposed agents, whose actions must be accounted for, negotiated and aligned” [Bottero, 2010: 20].

While recognising actual social processes as important elements of European identifications, we argue that the intensity of identifications on that level depends to a significant extent on the participation in European (transnational) social fields. However, seeing transnational social fields as a set of multiple interlocking networks of social relationships, through which ideas, practices and resources are unequally exchanged, organised and

transformed [Basch, Glick Schiller and Szanton Blanc 1994], the participation in them is conditioned with the participation in other fields that disposes them to a lifestyle, or a way of living associated with the particular social group from which they derive. The individual has to possess particular economic and symbolic resources which 'open the gate' to transnational fields. A following discussion is therefore based on the presumption that participation in transnational social fields influences the perceptions of the European Union among citizens of the member states, while particular national social fields determine the individuals' possibility and ways of participating in transnational ones. A set of cultural and social, economic and political horizons play a protagonist role in that respect, which could contribute to differences in identification among them. The latter has led us to central goals of the article, which will be theoretically and empirically substantiated:

We attempt to present which factors have actual influence on the social processes enabling identifications with European space, ensuing from the important role of everyday practices and activities on supranational instance. While taking into account that increasing global flows of ideas, and popular culture, money and employment have transformed traditional, positional view on identities, we intend to compare the key aspects related to the formation of European identifications among all national members of the European Union in an attempt to identify the diverse patterns in the ways of the European identification.

In terms of recognising differences between nation states, we attempt to move forward from exploring the practices influencing European identifications on individual levels. While taking into account structural and cultural aspects of national social context, we expect to shed a light also on the role of thick culture [Geertz 1973] in construction of identities. Thus we intend to offer some further consideration in examining contemporary formation of individual identifications.

Social fields and European identification

Contemporary social realities are tightly knitted with various transformations resonating both on global and local levels. The increasing complexity and accordingly more complicated coordination of modern societies is becoming a key component in understanding contemporary social systems [Makarovič 2001]. Human society is becoming more and more fluid and inclusive and identities should be conceived in terms of fluidities of time and space, where individuals are not just members of fixed and separate societies [Rapport and Dawson 1998: 3-4]. The implicit connection between individuals and physical places has been put into doubt. It can be highly illuminating to view the last 200 years as a history of acceleration, as the objective qualities of space and time have changed on account of economic and technological changes [Eriksen 2007]. The notion of ‘time-space compression’ has come to the fore, entailing the idea that both the logic of capitalist growth, and the availability of technologies of instantaneous communication have radically transformed our perception of the world, which is “characterized by speed-up in the pace of life, while so overcoming spatial barriers that the world sometimes seems to collapse inwards upon us” [Harvey 1989: 240]. All physical and social entities are constituted through time and space, seeing that nothing is static anymore and there is no structure existing divorced from the processes [Urry 2003: 7]. Global processes denote simultaneous connections of people from different parts of the globe comprising various activities, individuals and their identifications. Crossing the national borders, global or transnational processes connect them within a broader space, both physical and cognitive. Limitations of social time and geographical places, as a key coordinates of modern social life, do not pose the insurmountable obstacles to various forms of social interactions and organisations anymore [Held and McGrew 2003: 3]. Social life is increasingly seen as constituted by the material world, which reflects new distinguishing connections enabling and providing new mobilities [Urry 2003: 122].

The intensity of global connections and interactions and their everyday presence in social reality, certainly have a great impact on the meaning of nation states. One can notice that economic, social and political activities

exceed regional and national boundaries in the fast lane and thus put into question the territorial principle of modern social and political organisation. This principle comprises the direct relationship between society, economy and policy within exclusive and limited national territory. Globalisation undermines this relationship in a way. The latter does not mean that territory has become irrelevant; nonetheless under global conditions it has become re-imagined and situated into global context [Held in McGrew 2003:8]. The exclusive link between territory and political power has been broken. New international and transnational institutions have connected sovereign states and transformed sovereignty into dispersed delegation of power. New body of regional and international laws has emerged, legitimizing new system of global power, formal and informal [Held in McGrew 2003: 11]. New intersections have emerged between national units and their actors on the one side and transnational actors, identities, social spaces and situations on the other side [Rek 2006: 47]. On the one hand, nation state is becoming weaker due to globalisation and transnational processes, while on the other hand it is actually gaining power from those processes. According to its strong political legitimacy, nation state has preserved an important status in a complex system of power, which comprises local, regional and transnational levels.

If transnationalism is understood as sustained activities across national borders, then the importance of a national scale and national space that can be transcended through these processes becomes obvious. With no national, there can be no transnational [Faist 2000; Willis et. al. 2004]. While the power of the nation-state has been challenged in some circumstances by supranational and transnational institutions, the organs of the nation-state still play a crucial role [Kelly 2002; Willis et. al. 2004]. Even though the term transnational points to the limited role of the nation-state in current cross-border relations, “the very word ‘transnational’ nevertheless tends to draw attention to what it negates – that is, to the continued significance of the national” [Hannerz 1996, cited in Fog Olwig 2003: 802].

In terms of the present discussion, it seems to be necessary to take into account both contexts, national and global or transnational, since activities

across national borders do not necessarily erode the importance meaning of national identities. Although individuals maintain contacts across national borders, this does not necessarily mean that their national affiliations and identities are similarly fluid and malleable. Predominantly, there is a continuous identification with nation states also in transnational social spaces or fields. Connections of European citizens on transnational scale comprise different cultural, social and political horizons relating to nation states, while the increasing complexity of contemporary society simultaneously combines and fragments those horizons on units not limited with the national frames. Flows of goods, people, and services across national borders and geographic regions present a complex set of conditions that affect construction, negotiation and reproduction of identities. These identities play out and position individuals in the course of their everyday life within and across each of their places of attachment or perceived belonging [Vertovec, 2001].

Contemporary social processes enable a high heterogeneity of social networks, which can emerge as a consequence of the attachment of individual to the European space or vice versa it influences that attachments. We argue that mutual interactions among individuals or social groups contribute to the existence of multiple identifications, which also include an element of Europeaness. Those identifications emerge from actual social practices, which individuals choose to perform, and expect some sort of benefits from them. They do not necessarily emotionally belong to the European Union, but their regular movement in the European physical and cognitive space increasingly contributes to their attachments to the European Union. Accordingly, individuals' perception of the unity and construction of their identities gradually change in terms of being Europeans to a significantly greater extent. Those who predominantly identify with Europe are individuals that possess certain economic and symbolic capital which exceeds national borders. They participate in transnational social fields which insinuates on a certain form of transnational habitus, which could present a basis for the European habitus.

The scale at which the habitus is to be found refers more to the scale of potential face-to-face encounters, where bodily disposition is important, and not so to the original formulation of the concept which is applied more to geographical places [Bourdieu 1977; Kelly and Lusia 2005]. In the present paper, we ensue from the conceptualisation of social fields as proposed by Pierre Bourdieu [1977] but we predominantly draw on a further elaboration of the notion in a transnational context as suggested by Basch, Glick Schiller and Szanton Blanc [1994]. They define transnational social fields as a set of multiple interlocking networks of social relationship, through which ideas, practices and resources are unequally exchanged, organised and transformed. Accordingly, less attention should be paid to absolute spaces. The way to make Bourdieu's theory of practice less structuralist and/or deterministic is to restructure it. Therefore, it is crucial to take into account not only the dispositional and positional but also the interactive dimension of social games. It then becomes obvious that reflexive accounting, conscious strategizing, and rational calculation are not exceptional but routine, constitutive elements of human action [Kelly and Lusia 2005: 845-846]. The contemporary approaches to identity formation have considered the meaning of the social location in identification processes, but in emphasizing the dispositional nature of identity, more explicitly reflexive and self-consciously mobilized aspects have also been acknowledged [Bottero, 2010].

The focus is on the idea that different aspects of identity can be related to the features of situated intersubjectivity [Bottero, 2010]. Intersubjective practice is experienced not just in terms of dispositions to act but also as a relation to the expectations and influence of concrete networks of others. Furthermore, agents share their perceptions and beliefs and continually provide 'accountability' to each other as a basis of coordinating understandings and practice, and of sustaining "a shared sense of what they are likely to do in the future and hold(ing) each other to account for the mutually recognized outcomes of what they have done in the past" [Barnes, 2000: 74, cited in Bottero, 2010: 16]. Accordingly, intersubjective practice is based on the inter-subjective habitus. The latter insinuates on the presumption that the 'repertoire of permitted actions is circumscribed by a particular cultural horizon' [King, 2000: 420, cited in Bottero, 2010: 17].

While exploring the transnational identifications seems to be important to consider particular cultural and social horizons. They condition and substitute the dispositional set of intersubjective habitus and influence on transnational identifications. However, practice is always a negotiated outcome of intersubjective coordination.

Therefore, a set of structural factors inevitably influences individuals' participation in multiple social fields, conditioning the forms and the content of individuals' habitus. Nevertheless, the role of individual reflexivity and resistance [Low and Zúñiga, 2003] should not be neglected, seeing that participation in social fields also enables and form specific elements of habitus, which individual consciously choose to have. The conceptualisation of transnational social fields suggested by Lewitt and Glick-Schiller [2003] highlights the difference between the ways of being as opposed to the ways of belonging. The former refers to actual social relations and practices that individual engages in rather than to identities associated with their action. Social fields comprise institutions, organisations and experiences that generate categories of identities that are ascribed to or chosen by individuals or groups. On the other hand, ways of belonging refer to the practices that signal or enact an identity which demonstrates a conscious connection to a particular group. Individuals within transnational social fields combine both ways differently in a specific context [Lewitt and Glick Schiller, 2003: 10-11]. Individuals are able to choose wheatear to be European or not, but certain conditions have to be fulfilled. Transnational social fields should be thus considered as multi-dimensional, encompassing structured interactions of differing forms [Basch, Glick Schiller and Blanc-Szanton 1994; Levitt and Glick Schiller 2004], involving individuals' active production of social space exceeding national borders [Low and Zúñiga, 2003].

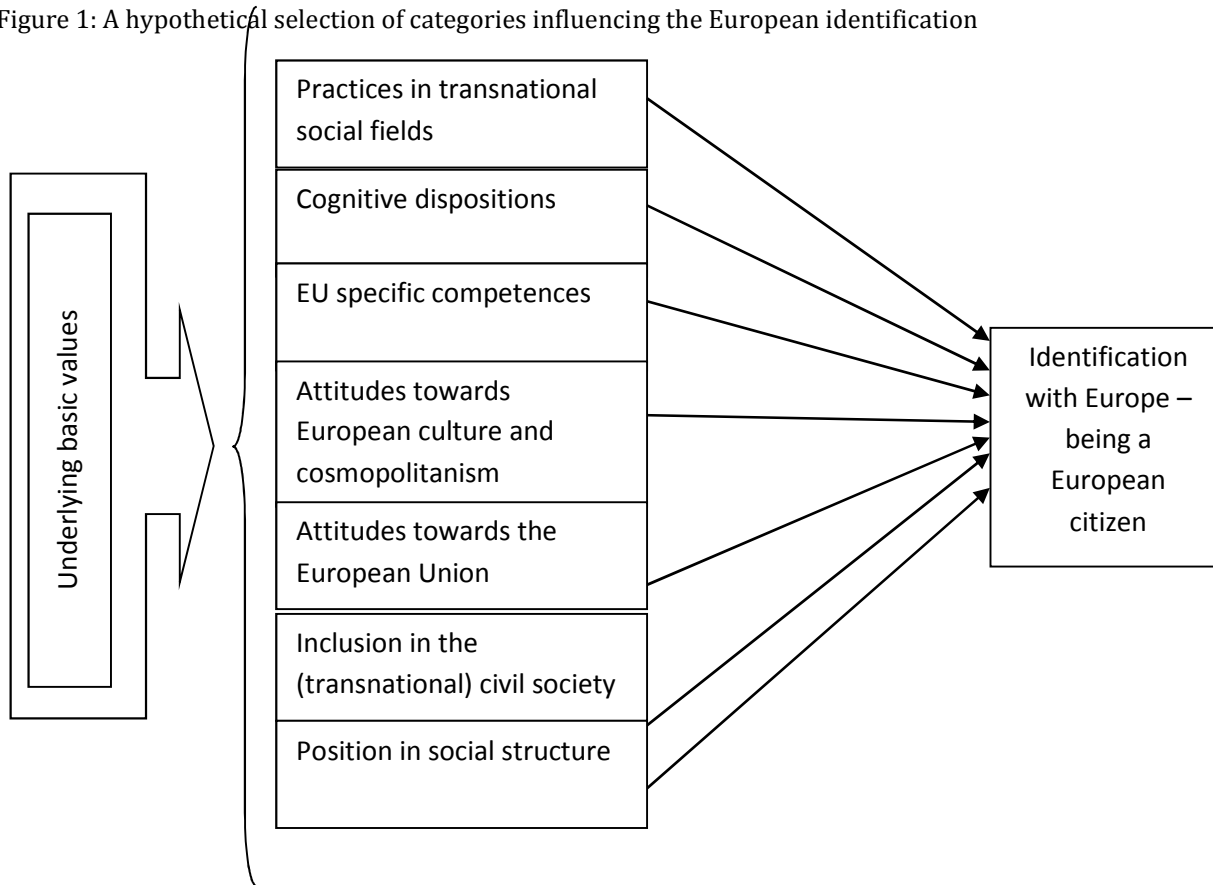
Social spaces that exceed national borders are framed by particular national economic, cultural and social horizons, from which individuals derive. Individuals who participate in transnational social fields are also present in the national ones, while nation state is still a primary container of people's lives. Therefore, we believe that comparison of different factors influencing

the identification with European Union among its member states populations could represent a variety of identifications with European Union. We assume that nation states (1) offer unequal abilities for individuals to enter transnational fields, and furthermore (2) many differences can be found among individuals participating in them according to different set of prepositions of particular national fields. In that context, dialectic relation between thick and thin culture [cf. Mishler and Pollack 2003] influencing individual perception of social reality on different levels (e.g. national and transnational) may have been of great importance.

Towards the factors of identification with European space

Our first step in the empirical part of the research has been to test the significance of the practices within transnational social fields, together with some other potentially relevant factors, in contributing to the feeling European citizenship. We assume that the relevant categories influencing the individual's European identity may thus include concrete practices in the transnational social fields, general cognitive predispositions, more specific European Union related competences, attitudes towards the European Union, the attitudes towards Europe as a cultural concept and cosmopolitanism, and the inclusion in the (transnational) civil society. From the background there may also be a relevant impact of some basic underlying values that may also influence most of the categories relevant for the European identification. In addition, we have also taken into account the individual's age and gender that may influence to some extent her or his position within the social structure. A simplified model – since we are fully aware that the actual causal relationships may be much more complex and running in different directions – in this regard is presented in Figure 1.

Figure 1: A hypothetical selection of categories influencing the European identification



We consider it necessary to combine a wide variety of aspects influencing the European identification, which has mostly not been the case up to now. Fligstein [2009] has focused on the impact of some determinants of individual's position in the social structure, including gender, age at school completion, income, age, occupation, and country of living in his logit regression model. The only attitude aspect included together with this structural dimension was individuals' self-positioning at the political left-right scale. Pichler has also focused only on the structural categories, which were analysed through logit regression, including gender, age, education, domicile in terms of rural or urban environment and social class in terms of occupational categories [Pichler 2008a]. In an earlier study he also investigated some of the attitudes related to the European identification noting the cultural and political aspects of European identification through both exploratory and confirmatory factor analyses [Pichler 2008b]. This distinction is partly implied in our hypothetical model as well by the distinction between the attitudes toward the European culture and the attitudes towards the European Union (as a more political concept).

Compared to the previous research by Fligstein and Pichler, we have combined more categories within a single model to observe their relative relevance in relation to the European identity.

Although all categories are not included to a sufficient extent to any single survey, we have found the Eurobarometer 73.4 survey from 2010 [European Commission 2010] to be the best available collection of relevant data for our purposes, since it provides some useful insights into human practices within the transnational social fields. Following our basic categorisation, the following variables have been selected as the best available proxy indicators:

The practices in the transnational fields could be inferred from the questions on visiting other EU countries; socializing with people from another EU country; watching TV programmes in tongue other than one's mother tongue; using internet in order to purchase products and services from another EU country; benefiting from less border controls when travelling abroad, from improved consumer rights when buying products and services

in another EU country and from less expansive communication costs when using a mobile phone in another EU country.

We have included education (whether a person had been 20 or more years when finishing his/her education as an Eurobarometer proxy indicator of having at least some postsecondary or tertiary education) and occupational status (in terms of distinction between managers and professionals on the one hand and the rest on the other) as measures of general cognitive capabilities.

An approximate indicator of more specific EU related competences is to which extend a person is familiar with EU citizens' rights.

Reading books, newspapers and magazines in languages other than one's mother tongue has been selected as the available proxy indicator of a cosmopolitan cultural perspective.

For the attitudes related to the political aspects of the EU we have included: the concrete attitudes towards the EU including the perception of the EU image; trust in the European Union; trust in the European Commission, the European Parliament and the Council of the European Union, respect for one's country's interest within the EU; the issues whether globalisation requires common global rules ('worldwide governance'), whether the EU has sufficient power and tools to defend economic interests in the global economy, and whether it helps to protect European citizens from the negative effects of globalisation; a general political orientation expressed in terms of self-placement on the left-right continuum, whose inclusion may be questionable since it does not seem to be directly related to the EU – the central reason for including it in the model has been to enable the comparison with the findings of Fligstein [2009] who had found some slight significance of this aspect for the European identification; In addition, we have included the questions whether volunteering in the fields of intercultural and interreligious dialogue as well as in building European identity are considered important. These may be both a proxy indicator of

active engagement in transnational NGO activities as well as an additional indicator of transnational and cosmopolitan attitudes.

The structural properties have included gender and age. Unfortunately, there has been no proper measure of person's income available in the Eurobarometer dataset.

For the dependent variable indicating the European identification, we have selected the distinction between those who claim that they definitely feel to be European citizens and the rest (namely those who claimed that they only feel that to some extent, not really, not at all, or do not know), since we needed an indicator of a relatively clear feeling of belonging.

Using these data we have applied binary logistic regression based on the Statistical Package Social Sciences (SPSS) software backward conditional method. The results are presented in Table 1.

Table 1: Binary logistic regression for European identification based on the Eurobarometer survey, 2010

Variables in the Equation	B	S.E.	df	Sig.
EU image-positive	0.461	0.045	1	0.000
Trusting EU(yes)	0.202	0.078	1	0.010
Trusting Council of the EU			2	0.006
Trusting Council of the EU (yes)	0.001	0.086	1	0.989
Trusting Council of the EU (no)	-0.268	0.103	1	0.009
Country's interest respected			2	0.000
Country's interest respected(yes)	0.419	0.134	1	0.002
Country's interest respected (no)	-0.044	0.139	1	0.753
Globalisation requires global rules - worldwide governance	0.199	0.042	1	0.000
EU sufficient power in globalisation	0.165	0.041	1	0.000

Knowing European citizen's rights	0.826	0.041	1	0.000
Reading in other language			2	0.000
Reading in other language (several times)	0.516	0.085	1	0.000
Reading in other language (once, twice)	0.057	0.090	1	0.523
Socialising with people from another EU country			2	0.028
Socialising with people from another EU country (several times)	0.206	0.080	1	0.010
Socialising with people from another EU country (once twice)	0.060	0.086	1	0.485
Internet purchase abroad			2	0.069
Internet purchase from another EU country (several times)	-0.228	0.101	1	0.024
Internet purchase from another EU country (once, twice)	0.002	0.089	1	0.985
Benefit from less border controls	0.154	0.069	1	0.025
Benefit from lower mobile phone costs	0.144	0.066	1	0.030
Volunteering – intercultural	0.239	0.099	1	0.016
Gender (female)	-0.271	0.061	1	0.000
Finished education at age 20+	0.151	0.065	1	0.020
Constant	-6.439	0.276	1	0.000

Source: European Commission 2010; own calculations.

With Nagelkerke R Square of 31.2 per cent, we can claim that the regression model has certain predictive capabilities, though this has not been our main purpose. The key insight from the regression model is identifying the aspects significantly related to the European identification – with the particular focus on the participation in the transnational social fields.

Both education and gender have turned out to be significantly related to the European identification in a way consistent with the previous studies: men [see: Pichler 2008a: 384] and more educated [see: Fligstein 2009: 133] tend to identify with Europe to a higher extend. The effects of age and occupational status, however, turned out to be insignificant in statistical terms and have thus been dropped from the model. This may imply that it is less important what people are in terms of their occupational statuses and age but what they actually do, particularly within the transnational social

fields. In other words, age and occupation do not seem to have a significant independent effect as such to the probability of identifying with Europe when actual practices in transnational social fields are taken into account.

Among the general political attitudes, the self-positioning on the left-right scale turns out to be insignificant and has thus also been dropped from the regression equation. It can be argued that the European identification clearly lies beyond the classical distinctions between the political right and the political left.

On the other hand, several concrete attitudes towards the European Union turn out to be significantly related to European identification: believing in a positive image of the EU, trusting EU, believing that country's interests are respected by the EU, that EU has sufficient power in globalisation, that globalisation requires worldwide governance. The proxy measure of the EU related competences, i.e. knowing EU citizen's rights is also positively related to our dependent variable.

The issue of trust towards some EU institutions is less straightforward. Distrust in the Council of the EU is negatively related to the European identification, which does not seem surprising. However, this is not the case for the trust in the European Parliament and the European Commission where the B coefficients are statistically insignificant and thus dropped from the model. It may be argued that trust into certain political institutions is not necessarily related to the identification with a given community – in a similar manner that people who do not trust their national parliaments and governments are not necessarily less patriotic than those who do.

Reading books, newspapers and magazines in non-native languages, which takes place several times (not just once or twice), as an indicator of cosmopolitan cultural attitudes has also turned out to be significantly positively related to the European identification. It may be tempting to compare this to the findings of Anderson [1983] who also saw reading printed materials as the key factor of producing the identification with the national 'imagined communities'. Despite the indications in our model we

still consider it premature to draw the same conclusion for the transnational European level – the special role of the printed materials can only be a hypothesis that requires further testing but it may be assumed that they do play a significant role in the reproduction of transnational social fields.

As a key aspect of practices in transnational social fields, regular socialising with the people from another EU country (again, not just once or twice) also has a significant positive impact on the European identification. Growing body of research on social capital clearly shows the relevance of social interaction (more on this see Adam and Roncevic, 2003). Direct social interaction thus also turns out to be an important aspect of transnational social fields in their contribution to the European identification signifying the importance of social capital in this respect.

Nevertheless, not all practices are relevant. Travelling to another country indicated no significant relation with the European identification. It may be argued that simply travelling to another country as such generates relatively superficial relationships that do not guarantee the interactions deep and intensive enough to generate the transnational social fields that would actually contribute to the European identification. The same is the case for watching TV in non-native languages.

Regular internet purchasing from another EU country is even negatively related to European identification, which seems somehow surprising. Nevertheless, it may be assumed that relationships that are only based on consumption do not represent a basis for kind of identification and that the virtual worlds as such are not always able to generate sufficient community identifications as well. As noted by Wellman et al. [2001] there is a clear difference between using the internet for social activities, which promote interaction (and may contribute to one's identification) and using it for asocial activities, such as Web surfing (and, of course, on-line shopping). They claim that while social users may build and maintain social capital, networked individualism reduces social cohesion and 'weakens their sense of community online' [Wellman et al. 2001: 451].

Finally, being able to benefit from less border control and lower mobile phone costs are also two practical issues related to higher probabilities of identifying with Europe. Consequently, despite some understandable exceptions, the concrete practices that contribute to the (re)production of the transnational social fields are also clearly positively related to the European identification.

Our regression model does not include any underlying basic values, which are supposed to have mostly indirect impact on the European identification – exerting their influence mostly through the more concrete attitudes and practices, mostly included in the model. However, a clear shortcoming of the model is still related to the limits of our dataset: several indicators are far from optimal and not all the key aspects that may be related to the European identification are included.

Patterns of European identification

In order to understand the patterns of European identification, a wider variety of indicators should be considered. Moreover, we also need to recognise the varieties of the national contexts while entering the transnational social fields and identifying with Europe. To make this step, we have shifted the units of our analysis from individuals to the EU member states. While European identification seems to belong mostly to the level of the thin culture [cf. Mishler and Pollack 2003] – being related mostly to the current practices in the European transnational social fields and attitudes on some very concrete issues – the patterns that contribute to its reproduction may still reside deeper in some of the more stable structural and cultural aspects of the national social contexts. If this hypothesis is true, the (national) patterns of the European identification should clearly correspond to some historical, structural and cultural divisions of the European continent.

Taking the EU member states as the units of analysis does not mean reverting back to methodological nationalism [cf. e.g. Beck 2005] in the sense of equating society with nation state. It is neither based only on the pragmatic reason that most of the data are collected within the national

frames. Instead, it is based on the recognition that the political segmentation of social life in nation states implies a variety of (national) institutional and cultural features that may significantly affect the participation in the transnational social fields and the ways of identifying with Europe. Here, we can to some extent also continue the research began by Pichler [2008b] who also noted the national differences in the cultural and political aspects of European identification.

Using the countries' aggregates we have included a variety of additional material – not used in our logistic binary regression model – to provide better proxy indicators for the categories presented in Figure 1. We have thus included the following indicators to observe the patterns of European identification, practices and the related categories:

The practices in the transnational fields are inferred from the countries' aggregates for the questions already included under this label in our regression model. In addition, we have included foreign direct investment intensity [European Commission 2010b], as well as the shares of Erasmus exchange students [European Commission 2009] and international air transport passengers [European Commission 2010b].

Cognitive mobilisation as the macro level equivalent of individual's education is represented by the shares of those having tertiary education and those participating in life-long learning [European Commission 2010a].

As indicators of more specific EU related competences we used the percentages of those familiar and informed with EU citizenship and the related rights [European Commission 2010; European Commission 2007b].

Beside reading books, newspapers and magazines in languages other than one's mother tongue [European Commission 2010] we have included a significantly wider range of other indicators related to the attitudes towards cosmopolitanism and European culture, namely believing that Europeans have more in common than others in cultural sense, believing in shared European history, identifying with the European flag, believing in cultural

enrichment by people from different cultural backgrounds, in important role of cultural exchanges, understanding EU in terms of cultural diversity, refusing immigrants, Muslims and people of different races as neighbours, being concerned with the life of Europeans and with the entire humankind, as well as fear of losing national identity and culture because of the EU [European Commission 2007a; 2007c; EVS 2010].

For the issues related to the attitudes towards the EU and its political aspects we have included trust in the European Union and the European Parliament; the issues whether globalisation requires common global rules ('worldwide governance'), whether the EU has sufficient power and tools to defend economic interests in the global economy, whether it helps to protect the European citizens from the negative effects and facing new challenges of globalisation; as well as the EU related fears of losing social security, increased costs for one's country, its loss of power and the loss of jobs [European Commission 2010; EVS 2010].

For the category of the (transnational) civil society, we have included the numbers of INVO members and INVO headquarters per million inhabitants [Rek 2008] and the percentages of people doing unpaid for the Third World and human rights organisations, peace movements and the share of people belonging to no civil society organisation at all [EVS 2010].

The structural properties at country level have been represented by its Human Development Index [Human Development Report 2010], its GDP [European Commission 2010c] and the percentage of households with yearly income higher than 30,000 EUR [EVS 2010].

For the examples of underlying values we have selected a set of choices from the European Value Study concerning some basic concepts for the upbringing of children [EVS 2010]. We assume that the stress on learning obedience represents traditional values, learning hard work and responsibility classical modern values, while learning tolerance and independence correspond to late modern, post-materialist and individualist values [cf. Inglehart 1997; Beck and Beck-Gernsheim 2002].

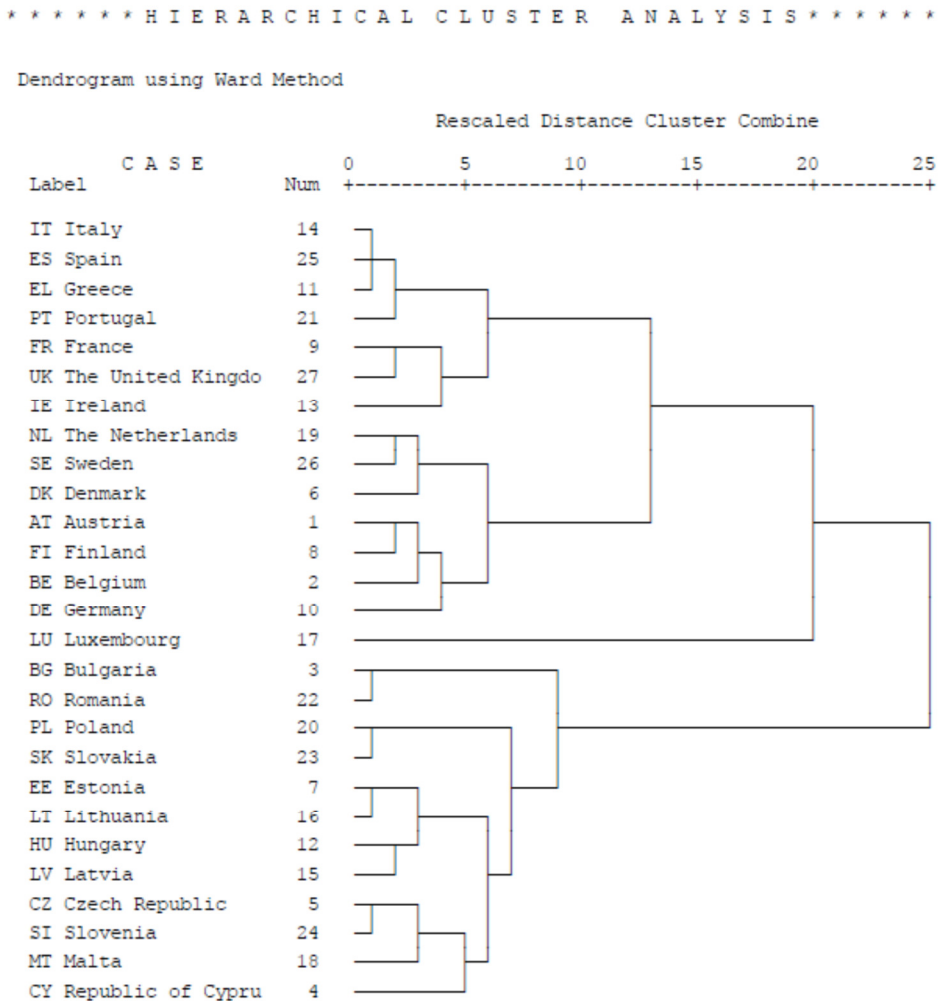
And finally, the indicators implying European identification have been feeling more European in the future, feeling EU citizen, belonging to Europe as the first geographic identification, belonging to Europe as the next one and identifying with the European flag [European Commission 2010; EVS 2010; European Commission 2007d].

All variables mentioned above have been used to generate the hierarchical cluster model based on Ward method. The corresponding dendrogram created by SPSS software is presented in Figure 2. First, one can clearly distinguish between the Eastern and the Western cluster of countries.

The Western cluster consists of all countries that have been the EU members already before 2004. It can be subdivided into four sub-categories, namely the Mediterranean consisting of Italy, Greece, Portugal and Spain, the Nordic including the Netherlands, Sweden and Denmark, the Western European consisting of France, the United Kingdom and Ireland, and West-Central European consisting of Germany, Austria, and Belgium but also including Finland as the only case deviating from this territorial pattern. Finally, Luxemburg clearly remains a special case within the Western cluster.

The Eastern cluster includes all new EU members, i.e. the countries that entered the Union in 2004 and 2007. It is further divided into four sub-categories, namely the Baltic-Hungarian, including the non-Slavic East-Central European countries, the South-Eastern consisting only of the Orthodox post-communist countries of Bulgaria and Romania, the East-Central European with Poland and Slovakia and the Mediterranean-Central European group consisting of Slovenia and the Czech Republic (as the closest to each other in this group), with the addition of Cyprus and Malta.

Figure 2: Patterns of European identification: hierarchical cluster analysis for EU member states



Discussion

Following the distinction between thick and thin culture as formulated by Mishler and Pollack [2003], identity is traditionally supposed to belong to the most stable, essential, unconscious, emotional, and given aspect of culture – it is supposed to be its thicker aspect, preceding and shaping human practices and even institutions. Clearly, this cannot be argued about the European identification, which is – as we have claimed in this paper in line with several other authors – a significantly more fluid and contingent concept, depending on a variety of attitudes, competences and concrete practices within the transnational social fields. Unlike national identities, which may be based on the long established traditions, myths and memories [cf. Anderson 1983; Smith 1995], reproduced through long periods of time, European identification resides more at the level of the thin culture. It is more chosen by the individual human actors than given in any kind of determinist way. As we presented in the first step of the empirical research, the actual social practices, which individuals choose to perform, and expect some sort of benefits from them, have a significant impact on European identification. Regular movement in European physical and cognitive space contributes to individuals' attachments to the European Union. However, their participation in transnational social fields does not necessarily mean that they will identify with the European Union but it makes the identification significantly more likely. Those fields evoke the idea of European habitus, which is more a result of dialectical relationship between individuals' actions and intersubjective consideration of their actions [Bottero 2010], as just structural predisposition. Therefore, in terms of understanding contemporary European identification, it seems to be important to consider what people actually do in an integrating Europe. The 'ways of being' [Lewitt and Glick Schiller 2004] European in transnational social fields, referring to actual social relations and practices that individuals engage in, thus play a crucial role.

However, such actions may well be culturally as well as socially structured. Therefore, our findings do not mean that the thick culture and some long established social structural aspects play no role in identifying with Europe.

This role may be particularly visible when one considers the variety of national contexts: the values, attitudes, competences and practices are far from randomly distributed across the European continent. As demonstrated by our hierarchical cluster analysis, the patterns of aspects related to the European identification clearly correspond to some well known and well established (historical, cultural, political, economic) divisions in Europe.

A consistent distinction between 'the old' and 'the new' Europe produced by the cluster analysis is clearly not coincidental. But what does it tell us? It is tempting to adopt one of the two relatively straightforward and opposing explanations: based either on (too) shallow or (too) deep causal links [cf. Kitschelt 2003].

What one can call a shallow explanation is based on the fact that most of the distances between the countries may be explained by the time of their entering the EU. The ten countries that entered the EU in 2004 can be presented as a special group, while Bulgaria and Romania that joined the Union three years latter represent another one. More years in the EU seem to provide more opportunities for the actors and institutions in a given country to develop the relevant competences and to enter the European transnational social fields in increasingly elaborated ways. The patterns of identification with Europe thus become a matter of (a few) years or decades. The problem with shallow causal explanation is that it does not answer the question why these particular twelve countries have only joined the EU in 2004 or 2007 and not before.

The answer to this question may imply a deep causal explanation. The differences in national contexts reside not in the timing of joining the EU but in the underlying historical and geopolitical causes that had determined this timing. Ten of the twelve newcomers have experienced the communist rule. Even before, most of them (except the Czech lands) belonged to the underdeveloped European (semi)periphery characterised by late industrialisation and deficiencies in 'civilisational competence' [Adam et al. 2005; Berend 2001; Sztompka 1993]. The specifics of Bulgaria and Romania might be related to the combination of communism and Orthodox religious

traditions. In a similar manner, the position of the Nordic sub-category may be explained in terms of their distinct Protestant religious and cultural traditions. Moreover, the Mediterranean countries may also be claimed to belong to particular cultural circles, historically far older than any attempts of the European integration. The patterns of European identification may thus also correspond to some old historical, cultural, economical and geopolitical divisions in the European continent [cf. Davies 1996].

Neither the shallow nor the deep causal explanation is necessarily incorrect – they are just both insufficient and should be used in combination. For instance, the Czech Republic and Slovenia joined the EU at the same time as Malta and Cyprus, which may make them more similar than implied by some deep historical causation. However, the Czech Republic and Slovenia may also be historically different from the rest of the post-communist new democracies. This may be a result of the early industrialisation of the Czech lands and the relative openness of the north-western Yugoslav (i.e. Slovenian) borders even during the communist times [cf. Adam et al. 2005]. The national predispositions for the practices in transnational fields and identifying with Europe may be related to both deep and shallow causal factors in a similar manner as European identification, as an aspect of thin culture, may be generated as a product of both thick and thin elements of culture. The factors influencing the European identification may thus range from the deep and long established values to the concrete daily practices and circumstances.

Moreover, comparing our regression analysis results with the member states aggregate data demonstrates that the relations that can be observed at the individual (micro) level cannot be directly transferred to the (emergent macro) national level. While individuals more engaged in transnational social fields also tend to develop European identification to a greater extent, the European identification of the general populations in most of the old member states is generally no higher than in the new member states – in some cases the situation is even just the opposite. This may be mostly caused by the fact that it is not only the individual experience but also the exposure to the prevailing discourses on European issues in a

given national environment that influences European identification [cf. Jessop and Oosterlinck 2008] where the national elites may play a significant role as well [cf. Adam, Kristan and Tomšič 2009].

It remains questionable whether the European identification as an aspect of thin culture can in time become European identity and thus a part of the thick culture. Available evidence does not speak in favour of such theses. The same question can be asked in the opposite way when concerning the national identity: is it becoming thinner while coexisting with the variety of identifications? Answering such questions is another challenge for the further research.

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