

Tolerance: Impact on Regional Economic Development ?

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Preface:

Tolerance is an issue, both economists and geographers, rarely address. Not so philosophers, novelists and historians. To them the causal link is beyond dispute: tolerance may in multifaceted ways influence society and economic wealth. What in novels and essays seems to be an undeniable causation, is not so clear for economists and geographers, used to ask: where is the evidence ?

To give an example, remember Budapest 1890 – 1918: Recently Kati Merton in her book “The Great Escape” (2006) reminded us of these exceptional three decades, that allowed the City of Budapest to rapidly transform into one of Europe`s most thriving metropolis and its dramatic decline thereafter. Prior to World War I, Budapest became a hot spot and driving force stimulating the economy of late Austrian-Hungarian Empire. Budapest then benefited from the cities tolerant atmosphere and open minded civil society, attracting migrants from rural villages in the provinces of Hungary – to settle in the city and to accomodate to the cities civil society as residents, merchants, lawyers, doctors, musicians or scientists (see the novels of Elias Canneti). At that time Budapest became the birthplace of more than two dozens of outstanding scientists, writers, artists and musicians (some of them later to be honoured as Nobel-Prize winners) among them Arthur Koestler, Robert Capa (Photographer) and Michael Curtiz (Casablanca), Béla Bartok, Eugene Ormandy, Georg Solti and George Szell as well the most prominent physisists and economists Leo Szilárd, Denis Gabor, Philip Lenard, John von Neumann, Eugene Wigner and Edward Teller (father of the Atomic Bomb) – to name a few. Historians and novelist/poets have described in details, in which way tolerance effected social dynamics and the then thriving economic upswing. Tolerance, open mindedness and the dominant lazzises faire attitude of the last stage of the Habsburg feudalism, helped and stimulated creativity and research in various disciplines, inducing wealth, in particular by allowing jewish families to assimilate and to live - without fear – as accepted members of the growing city`s civil society.

As is also well documented, these few liberal decades came to an abrupt end. With Bela Kuns short interregnum 1918 trying to establish an communist regime and Admiral Miklòsh Horthy coming to power in 1920, Budapest changed dramatically. Horthy`s National Army exacted a cruel revenge by violent repression against Communists, Social Democrats and Jews in what became Europe`s first faschist regime, well ahead of Benito Mussolini and Adolf Hitler. By subscribing to anti-semitic prejudice, Horthy reversed Budapest`s tolerant atmosphere into an intolerant one, creating fear among local residents and forcing the very best talents to leave the country, simply to survive Horth`s “White Terror”. The evident result was social deterioration, an accelerating exodus and economic legacy, lasting for about 70 years, cumulating 1944/5 and continuing throughout the communist years.

I. Introduction

This paper explores the issue of tolerance and in particular its possible impact on the economic performance of cities and regions. Tolerance is conceptualized as an element embedded in regional milieus. It is assumed to be part of the regional value structure thus determining the city-regional specific atmosphere in social-psychological terms of any local mentality. (In addition, the absence of tolerance in regional milieus is considered). Is there – ceteris paribus – any empirical evidence (or, if not, are there at least some indications) supporting the notion that there is some sort of a causal link, that might explain to what extent tolerance allows city and regional economies either to prosper or to default ?

Our hypothesis to be tested is: the degree to which tolerance is accepted – or rejected - as a norm (value structure) shared by residents, policy makers, administrations and among firms at the city-regional level has an indirect effect on economic performance to this particular city-region, measured in terms of GDP p.C., income p.C., innovations, employment and/or firm creation via improved communication channels. It is assumed that tolerance eases both generating new knowledge and absorbing ideas and innovations for new products, processes and organisational models, researched and developed elsewhere.

Tolerance is not a single new factor unresearched so far. By conceptualizing tolerance as a social norm and attitude shared to a more or lesser degree in local milieus, tolerance is embedded and seems to be working in collaboration with other factors, the author avoids any mono-causalistic approach as to explain regional change. Clearly, the value-structure of the regional milieu - tolerance is part of this milieu – is not working in isolation. Tolerance is rather considered as co-evolving in a rather dialectic process together and in close interaction with the regional economy and its institutional framework (Nelson, Winter, 1982; Boschma, Martin, 2008), but also simultaneously being an indispensable element in a complex causal mechanism of economic change, which still is considered to be largely a black box.

This paper is organized as follows. First, a brief outline of R. Florida`s often cited tolerance-hypothesis and his approach to measure tolerance is given; second, the author introduces an alternative approach to test tolerance; third, based on electoral votes, some rather simple empirical correlations will be presented. Finally, the author adds some reflections on how to interpret these findings as to their possible causal dimensions.

II. Richard Florida`s tolerance - hypothesis

In Richard Florida`s widely cited publication “The Rise of the Creative Class” (2002), he argues that the combination of three factors: “talent – technology – tolerance” make the difference when it comes to explain why some cities and regions – every thing being equal - grow, while others shrink and why some cities and regions - even within the same country or state and with identical regulatory frameworks – perform as technological forerunners succeeding in generating innovations while others only benefit from diffusion with time lags ?

Florida`s publications (also 2005a; 2005b) have widely been criticised and stirred a controversial debate among researchers. A number of scholars disagree, pointing to numerous inconsistencies in his analysis of regional data (Glaeser, 2004; Peck, 2005; Storper, 2008,

Asheim, 2009). Others confirmed at least part of his findings (Rudder, Gilleßen, 2008; Boschma, Fritsch, 2009). His arguments – one has to acknowledge - are clearly beyond traditional disciplinary limits, however, because of using questionable data and missing empirical evidence, his publications seem more to be speculative reasoning. He poses new hypothesis that still miss empirical evidence. So far Florida did not succeed to prove his case.

Although Florida is by far not the first regional economic geographer, claiming technical innovations, human capital, research and knowledge to be central for the competitiveness of both high wage cities and regions engaged in global markets, he is probably the first scholar explicitly emphasizing, that **tolerance** might – along with others - be an essential element in the mix of factors, contributing to the performance of cities and regions. In his view, tolerance speeds up the process of technical innovation, thus contributing to wealth, income and job creation. As we will see, although plausible on first sight, on second sight, his concept of evaluating tolerance is misleading.

Calculating any possible impact of tolerance at the regional level is a complicated issue, as tolerance relates to various aspects of a city-region`s milieu: social, ecological, technical advances, cultural and political issues or – more generally speaking – openness towards innovations and new ideas, trends of modern thinking, entrepreneurship and business development. To capture all these dimensions of tolerance and openness for diversity in a single indicator is probably demanding too much.

What constitutes a tolerant atmosphere at the city-regional level und how to measure its mental characteristics ? What are the possible effects linked to the existence of tolerance versus intolerance ?

Before testing the concept of tolerance, a brief overview might be helpful sketching the philosophical background of tolerance, deeply rooted in the history of both Europe`s and North America`s culture and intellectual discourse. Tolerance was gained by the upcoming civil society in the 18. and 19. century against persisting repressions at the times of feudalism. With the Edict of Nantes Henry IV, king of France, as early as 1598 stated the civil right to serve one`s own religion for the first time. Tolerance is originally based on the conviction that nobody should claim absolute truth, not even the king. Instead every citizen must respect in tolerance other citizens views and convictions. This theme, applied to the assimilation and acceptance of Jews was highlighted in Theodor Lessing`s “Nathan the Wise”. Demanding tolerance played an important role both in the French revolution 1789 and in the formulation of the American constitution 1776. Also King Frederic II (the Great) postulated tolerance in Prussia (“ein jeder möge selig werden nach seiner facon”), allowing e.g. Moses Mendelssohn to come to Berlin and his children and grandchildren to make a fortune in banking and a living in becoming musicians and scientists (Lackmann, 2005). Historically tolerance was first applied to the church, however in later times, the concept of tolerance was extended to the working class and to citizens from various ethnic backgrounds and gender.

Clearly, R. Florida does not subscribe to tolerance in its philosophical definition. Instead he refers to tolerance in a rather wide and loose meaning. In his publications he usually uses the expression “tolerance and openness for diversity”. He follows – although this is not in any way defined – a bi-polar concept (Florida, 2002, 249 ff). 1)

- On the one hand he seems having some sort of open society in the sense of Karl Popper in mind. Drawing on social scientists such as Lloyd and Clark (2001) he wants to include the variety of urban subcultures and scenes that distinguish themselves

from traditional norms claiming to be “open-minded, diversified, stemming from different cultural, social milieus” (Florida, Mettlander, 2006, 11). He subscribes to a concept of tolerance that includes acceptance of citizens of different nationality, race, religion or ethnic background, homosexuals and gender. For him tolerance means residents respectfully co-existing side by side, even if neighbours do not share the same views, but, to the contrary, explicitly do express different values, living-habits. In fact, his view is dominated by what R. Inglehart describes as post-industrial value-changes (Inglehart, 1997; Inglehart, Wetzel, 2005). Florida uses the term tolerance as a chiffre for distinguishing modern lifestyles and values of self-expression typically for the post-materialized era from old more utilitarian thinking typically in the industrialized world.

- On the other hand, the second pole of Florida’s concept of tolerance refers to a more favourable business climate. He claims cities and regions to be tolerant that direct their policies towards deregulating both over-regulated administrative codes and complicated decision making procedures and that also improve easy access to venture capital and to lower entrance barriers for start ups. This is an entrepreneurial approach including an atmosphere that supports both technical and business innovations as well as a general openness for experiments, science and its transfer into new products and processes. He characterizes a tolerant milieu to express support for being curious and for quickly responding to external challenges, applying unconventionally new ideas, exploring organisational change and experimenting with new cultural dimensions. In general, for him tolerance and openness for diversity in this sense seems to express no prejudice against modernity, against environmental protection, health food and against innovations in every respect. He claims that an open and favourable regional business climates and innovative milieus results in start ups, new jobs and accepting business failures (Florida, 2002, 250, 52).

In carrying the debate a step further, it seems to be both a necessary and promising task, to take Florida’s tolerance hypothesis serious and to test it against a different set of data.

Given the practical constrains it is fair to acknowledge that R. Florida ventured new grounds, testing data sources that had never been used before. In absence of any better indicator measuring tolerance and diversity at the regional level, his research is clearly a step forward. In his attempt to evaluate tolerance and creativity Florida had little choice not to compromise. In order to carry through his research, he experiments with new data sources. However, upon reviewing his analysis it soon becomes obvious: Florida’s creativity index is not the best solution. Neither the bohemian index, nor the gay index nor the melting pot index fully capture all the aspects of his understanding of regional tolerance. It is therefore necessary to search for other data sources and to test new indicators in search for a somewhat more adequate data base that might better capture the full meaning of all the bi-polar elements in sum making up a tolerant and open regional atmosphere in the said sense.

III. Testing the tolerance- hypothesis with Data from Germany’s Federal Statistical Office

The German Federal Statistical Office provides scientists with disaggregated data. In fact, the data available in Germany seem to be feasible as they allow to avoid constructing a somewhat obscure creativity index based on indicators such as the gay index, the bohemian index and

the meltingpot indicator. Basically there are two sets of data, allowing for detailed analysis at the level of cities and counties (Kreise, kreisfreie Städte).

Coordinated by the Federal Statistical Office (Wiesbaden) the states (Länder) have compiled various sets of disaggregated data at county levels, resulting in a bi-annual publications. (Statistische Ämter des Bundes und der Länder 2006, 2008). Even in more details, the Federal Ministry of Transport, Construction and Urban Affairs through its office BBR provides bi-annual CD ROMs called “INKAR” with a wide spectrum of regional data, allowing disaggregated analysis at the city and county level. These CD ROMs include a wide array of indicators on items such as population, economic performance, business development, labour market, taxes, income, housing, education, health and social services. (BBR, INKAR, Bonn, 2006, 2009)

For the purpose of this investigation, both sets of data had to be combined. For the purpose of this paper, the author (further investigations are underway) investigates 20 metropolitan areas (by aggregating city and county data in the geographical definition of the BBR for metropolitan regions), including at least one core city with 250.000 and more inhabitants (adjacent counties are included as well); small and medium sized cities and rural areas are excluded from the analysis; the author focuses on the comparison of the performance of city-regions (metropolitan areas) exclusively. 2)

With respect to operationalising both independent and depended variables, the two datasets provide information at the city-regional level, such as demographic characteristics, migration, ethnic background, voting in federal and state elections, GDP per Capita, value added, household income per Capita, employment, unemployment and firm creation. A selection of these indicators will be used in following research.

According to our research design the degree of tolerance to be accepted or rejected at the city-regional level is conceptualized as an independent variable. The author uses data stemming from the federal election in 2005 (Bundestagswahl 2005) running these data against dependent variables, such as GDP per capita, household income per capita and start ups of new enterprises per 10000 residents all at the city-regional levels.

Political scientists, e.g. from the Mannheim Institute “Forschungsgruppe Wahlen” keep on pointing to the notion that elections can be interpreted as voting for or against certain values and profiles, the alleged parties stand for (Forschungsgruppe Wahlen, 2008 /2009). Analysing the patterns of any party`s constituencies starts from the assumption that residents not only vote for or against certain candidates but also through their votes want to express support for or against party programs. Thus in regional voting patterns – despite some overlap - certain profiles of local milieus are captured.

Contrary to only two parties – Democrats and Republicans - in the US, the spectrum of political parties in the Bundestag is much wider and more differentiated. All of the six parties in the Bundestag (CDU, CSU, SPD, FDP, Grüne, Linke) have a rather clear profile as to their core constituencies, with only some overlap. This allows us to attribute certain political aims, values and norms to be represented by certain parties.

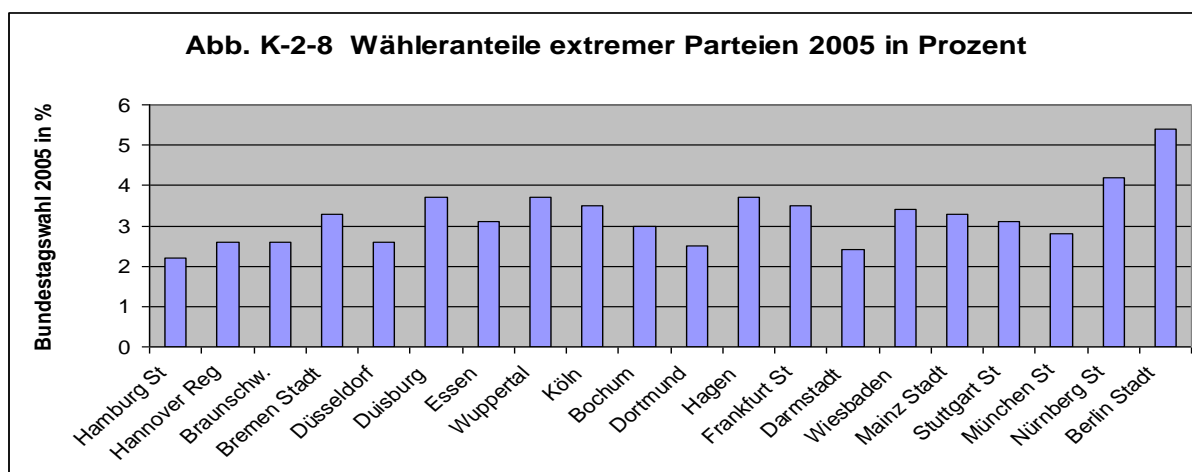
In addition in Germany there are several small parties both on the extreme right and on the extreme left side of the political spectrum participating in state and federal elections. A few of them gained more than 5 % in state elections making them eligible to parliamentary seats in parliaments of the Länder, none of these extremist parties made it into the Bundestag. For the

purpose of this research, the votes of all the extremist parties had been added; the sum gives a picture of the geographical distribution of anti-tolerant resentments, still persisting in certain cities and regions.

III.1 Radical anti-tolerant attitudes

Our first option is to investigate if there is any correlation as to what extent anti-liberal and anti-tolerant attitude might restrain the creation of wealth at the city-regional level. Via electoral votes for both right- und left-winged extremists, the author believes he can make anti-tolerance visible at the local level. 3)

Graph A 1: Degree of Intolerance measured via Percentage of Radical Right- and Left wing Votes in the Federal Bundestags Election 2005 in City-Regions

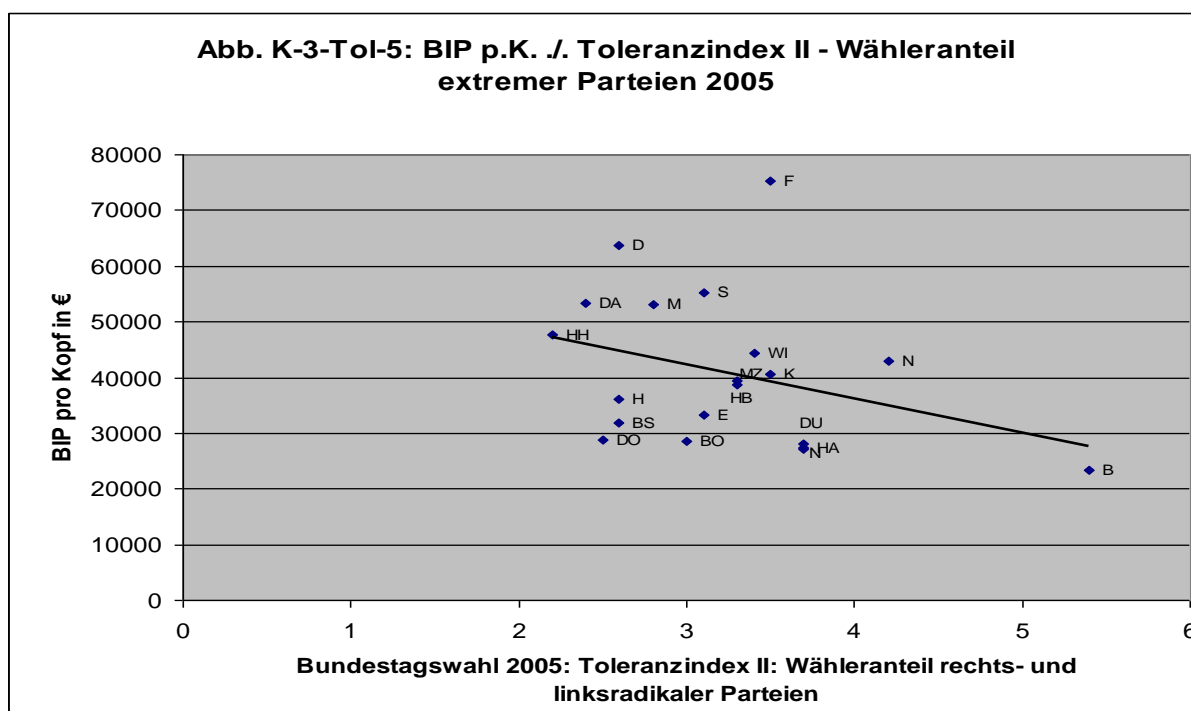


A few selected graphs may indicate that – on first sight - there seems to be vague correlation between a regional minority expressing its anti-tolerance mentality and the rather bad performance of GDP and income, both per Capita.

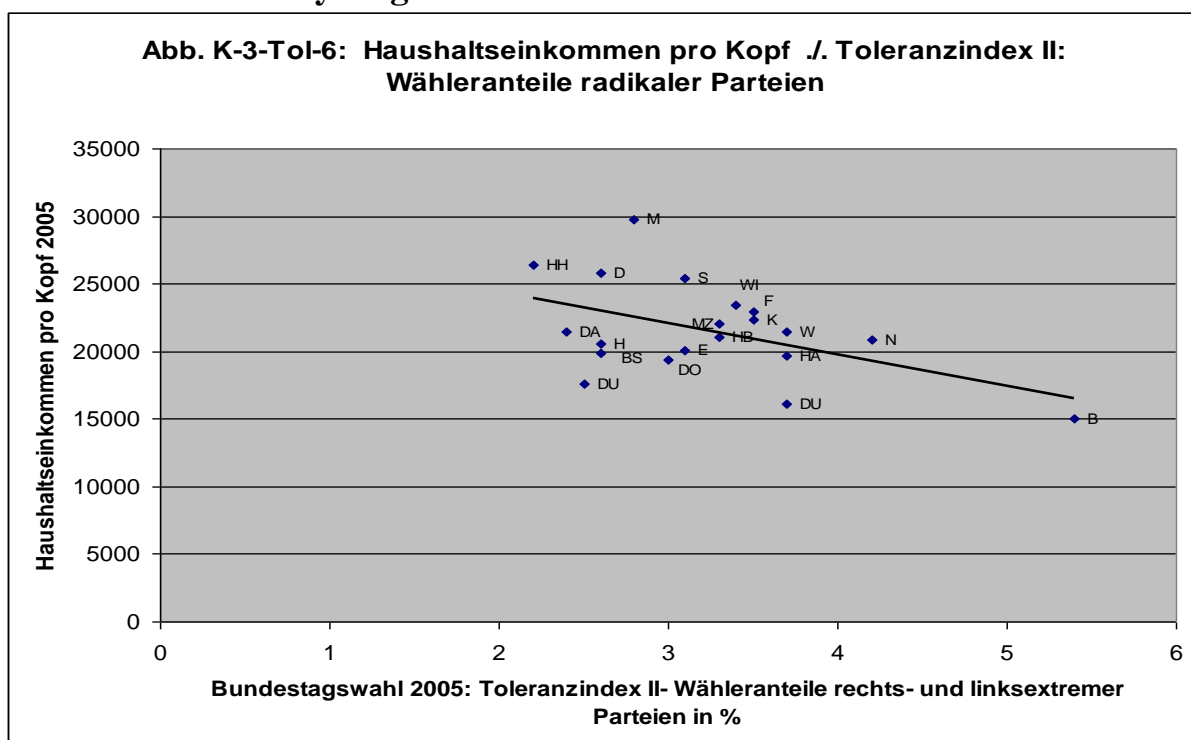
To do so, the percentage in the federal elections extremists anti-liberal parties gained is plotted against selected indicators of wealth. Analysing the electoral voting patterns allows the author to measure the city-regional share of residents that somehow honour values to be represented by parties on the far right and left. Adding the percentage seems to be a valid indicator for the degree, persisting racial resentments are still rooted locally in social milieus.

What can be learned from these figures ? Although on a mostly insignificant statistical niveau ($R^2 = 0,18 - 0,32$) the findings indicate that there is a loose connection. In fact, intolerance is a handicap for the local economy and may impede firms from investments. Any careful interpretation of these figures is, however, constrained by the weak data basis. With percentages in the range of 2 - 5 % of the total regional vote, any analysis has to consider other intermediate variables that might exert an influence. Education, schooling, Unemployment and economic specialization might have an influence upon the dynamics of economic performance and must be considered. The quotas of support for both left und right winged parties on the extreme of the political spectrum seem to be too small to significantly

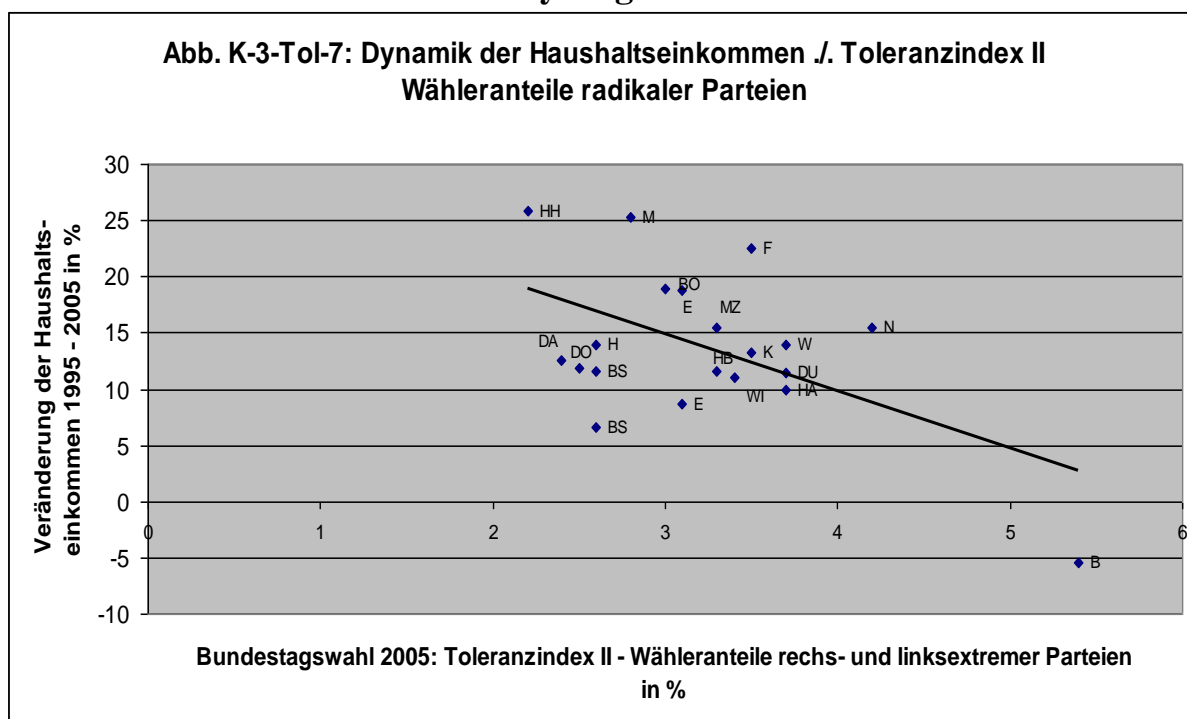
Graph A 2: GDP per Capita 2005 ./ Degree of Intolerance measured via Percentage of Radical Right- and Left wing Votes in the Federal Bundestags Election 2005 in City-Regions



Graph A 3: Household Income per Capita 2005 ./ Degree of Intolerance measured via Percentage of Radical Right- and Left wing Votes in the Federal Bundestags Election 2005 in City-Regions



**Graph A 4: Increase in Household Income per Capita 1995 - 2005 ./.
Degree of Intolerance measured via Percentage of Radical
Right- and Left wing Votes in the Federal Bundestags
Election 2005 in City-Regions**



influence GDP p.C. and household income p.C., The findings could be interpreted as an indicator for the value structure of the local milieus, indicating the degree of intolerance and anti-liberalism prevailing at the regional level. The figures do not seem to be possess enough explanatory power. To draw any conclusion with respect to causal links remains - because of such small shares of the electoral vote - highly speculative.

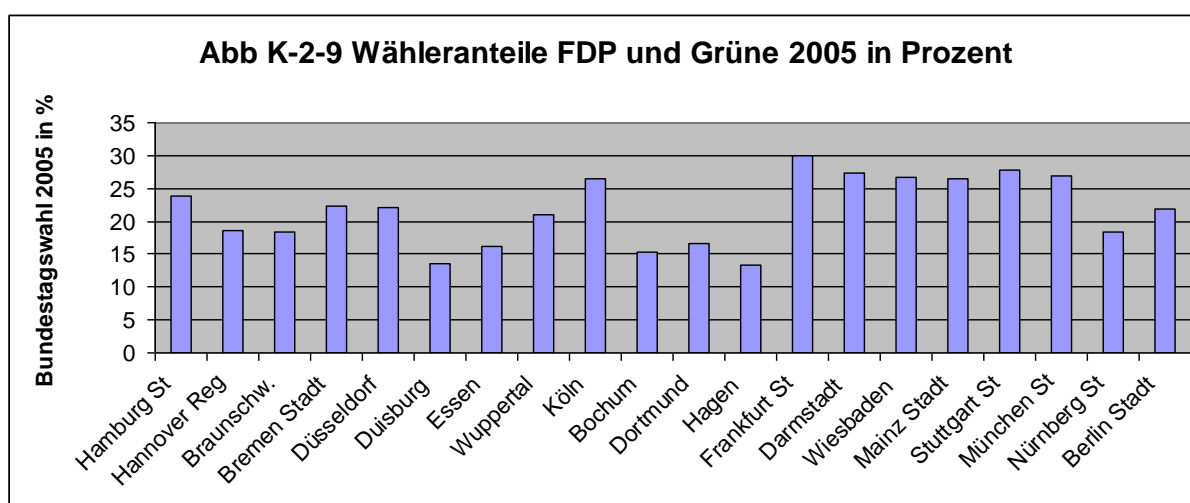
III.2 Green and liberal votes

Turning to the flip side of the coin. With respect to tolerance, two parties seem to be of particular interest, as they stand for change, although pulling in completely different directions. The two parties are the Liberals (Freie Demokraten, FDP) and the Greens (Grüne). This is in line to Florida's bi-polar concept of tolerance. In a nutshell, they represent two different direction of change, on the one hand there is the liberal-business friendly approach (some call it neo-liberalism); on the other hand there are the human rights and ecological values of the Greens 4). These two advocate clearly distinguishable programs, corresponding with the two poles of tolerance. For the purpose of investigating the impact of the bi-polar profile of tolerance, it is legitimate, to select and add the votes of the two parties in federal elections. In search for an appropriate indicator measuring the degree tolerance, the author claims that the percentage both the Liberals and the Greens gained in federal elections, disaggregated at city-regional levels, may serve as a valid indicator for the degree, liberal and tolerant values are accepted or rejected in local milieus. It is plausible to assume that the sum of the percentage of votes best captures their profiles as to the extent tolerance is accepted locally.

The findings - at statistically significant levels - are presented in the following graphs. The results stem from plotting the regional percentage of liberal + green votes in the Federal Bundestag elections 2005 against economic performance indicators.

Given regional quotas ranging from 13 to 30 percent of the total vote for the added liberal-green vote the sum of both indicates the degree to which both the business friendly concept of tolerance via self-reliance, deregulation and supporting entrepreneurs and the green concept of tolerance as civic and human rights is rooted in the social fabric of any city or region. Adding the votes for these two parties in the federal elections 2005 at the regional level can be valued as voting for or against profiles towards tolerance and openness rooted in local milieus.

Graph B.1: Degree of Tolerance measured via Percentage of Green and Liberal Votes in the Bundestags Election 2005 in City-Regions



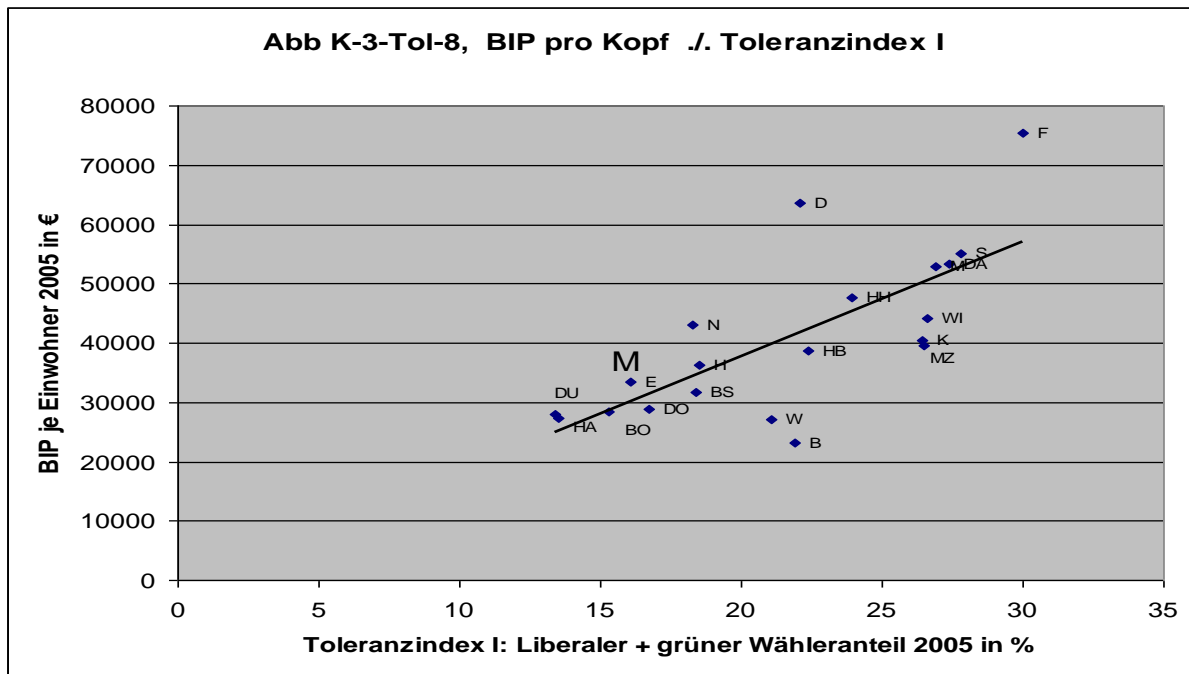
Graphs B 2 – B 5 evidently show correlation ($R^2 = 0,53 - 0,67$), providing evidence that economic performance at the local level might very well be stimulated by tolerant and open minded attitudes of the residents. Although these observation needs further testing, before any conclusion is confirmed - if it holds, the implications of these correlations for understanding urban und regional change might be far-reaching. In particular, they shade further light onto the innovative milieu debate, as the author will discuss in the concluding remarks.

What is the message these data tell ? To gain a better understanding of the mechanism at work, it is necessary to add another aspect. A closer look at the independent variable “tolerance” creates doubts whether the measured degree of tolerance is really independent from any other intermediate variable.

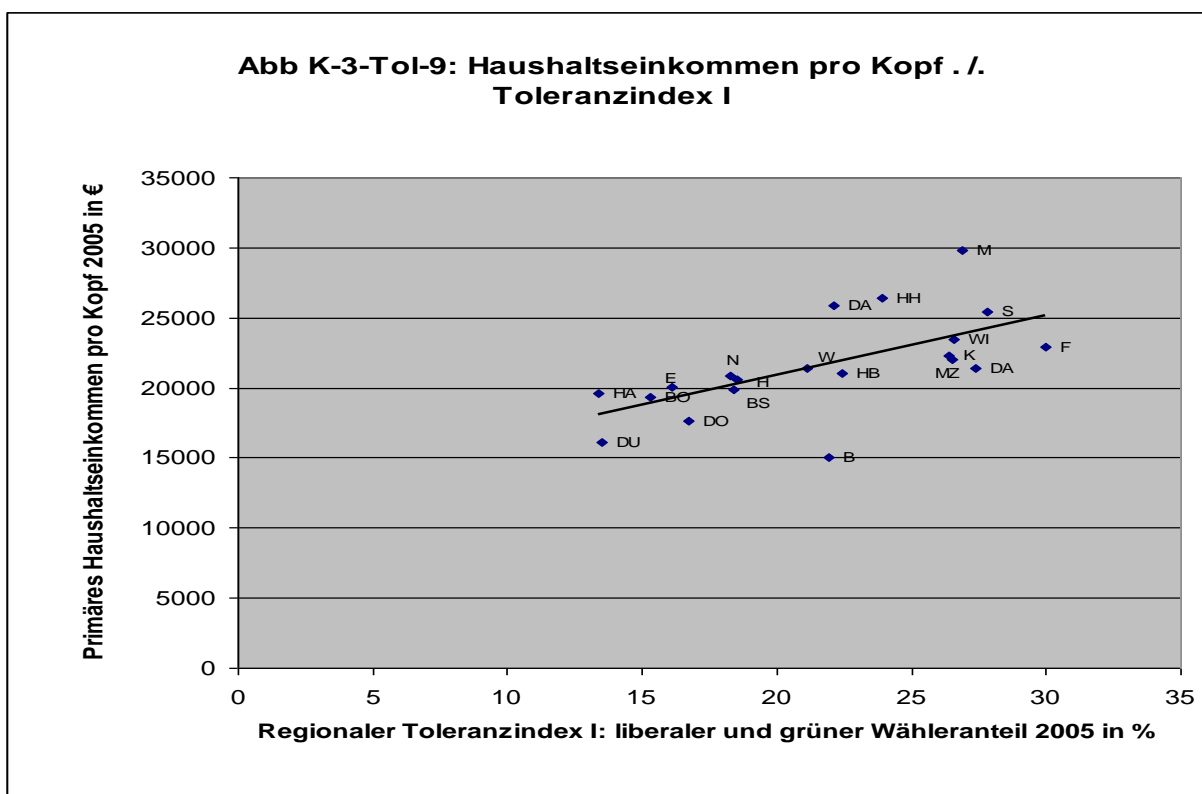
Evidently it is not as there is an overlap with education. This alleged restriction is supported by looking into the socio-economic details of the constituencies of both the FDP and Green voters, election analyses show that the constituencies of both parties enjoy an overproportional acceptance among the highly educated, having graduated from university. In addition both parties succeeded in gaining an overproportional share of the votes among younger residents 5).

These estimates distort causal reflections on assessing the possible impact, tolerance might have on economic dynamics. Because the level of education is higher among the voters of

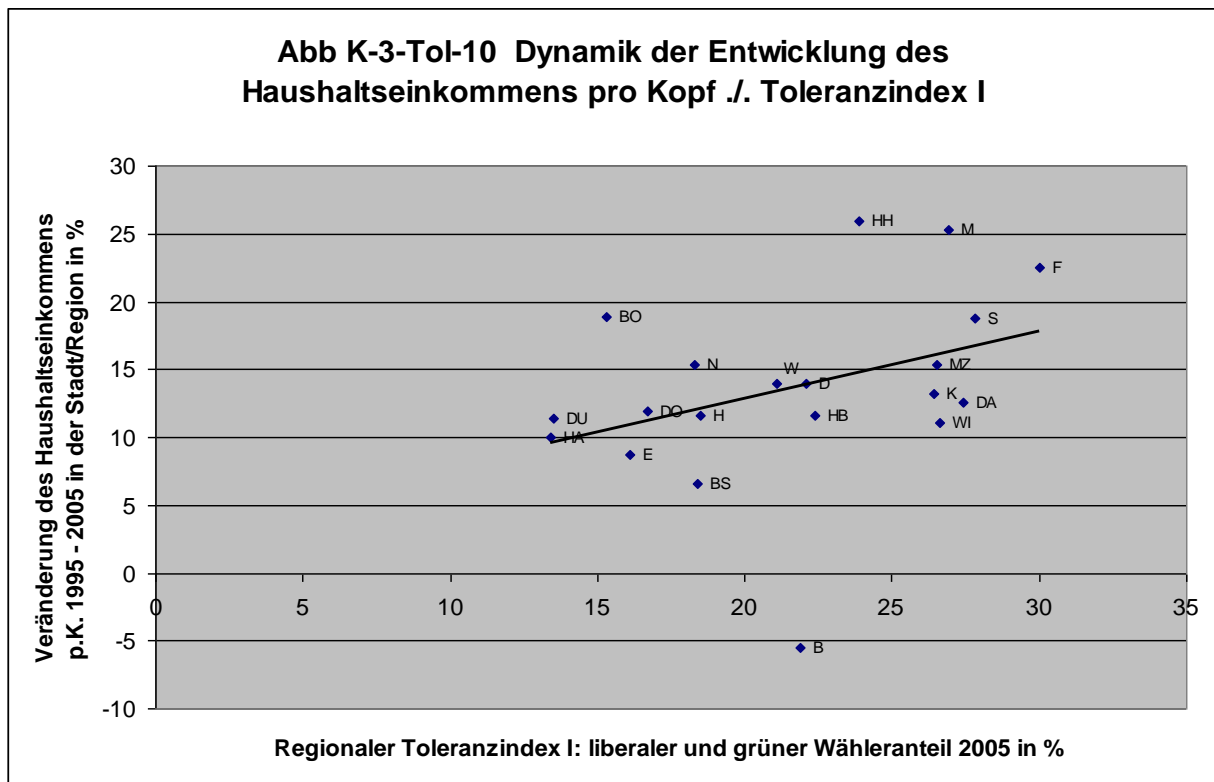
Graph B.2: GDP per Capita 2005 ./ Tolerance measured via Green and Liberal Votes in the Bundestags Election 2005 in City-Regions



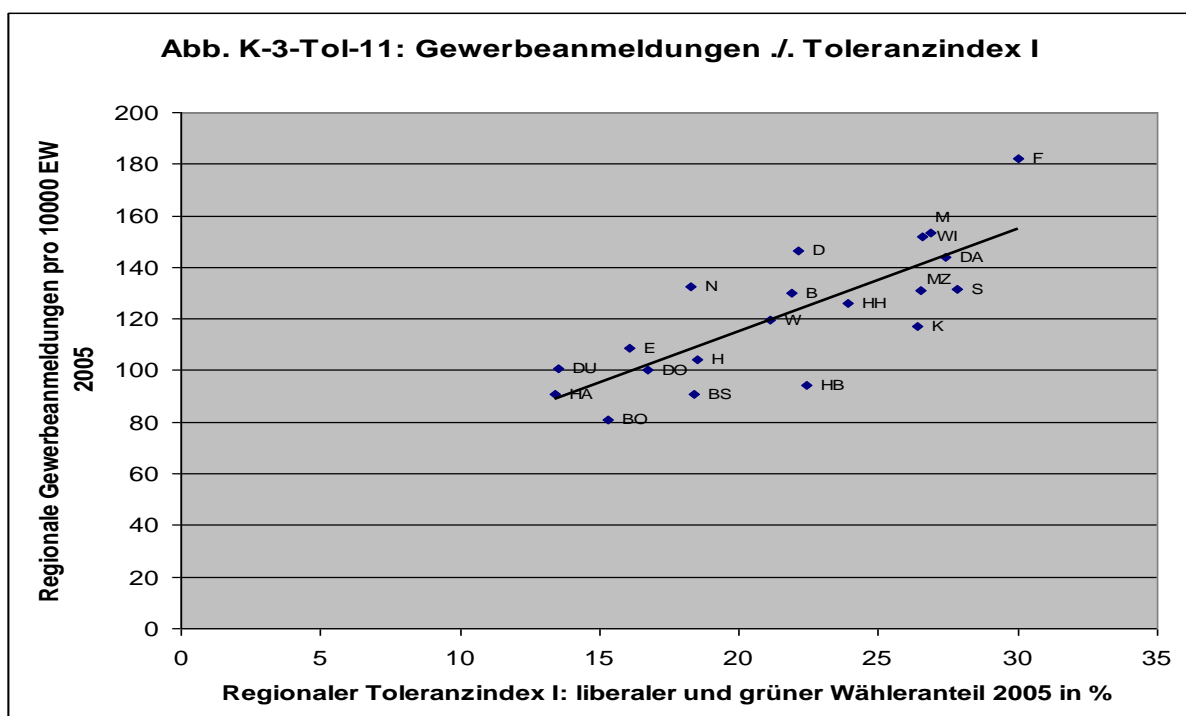
Graph B.3: Household Income per Capita 2005 ./ Tolerance measured via Share of Green and Liberal Votes in the Bundestags Election 2005 in City-Regions



Graph B.4: Increase of Household Income per Capita 1995 – 2005 ./.
Tolerance measured via Share of Green and Liberal Votes in
the Bundestags Election 2005 in City-Regions



Graph B.5: Start Ups per 10000 Residents 2006 ./.
Tolerance measured via Share of Green and Liberal Votes in
the Bundestags Election 2005 in City-Regions



both parties, the correlations presented above must be read in the light of the human capital theory. Tolerance and education are not independent one from another. To the contrary, one cannot object the notion that the correlation of the regional niveau of tolerance might severely be overshadowed by the different levels of school attendance, representing the local workforce. This question is answered in another paper.

IV. Conclusions

Contrary to research done by historians and the descriptions published by novelists on the changing political and social conditions in cities such as Budapest prior and after 1918, Berlin prior and after 1933, Madrid prior and after 1936 or Moscow prior and after 1937, economic geographers have to ask for the evidence and to argue carefully, when it comes to prove any causations.

As in most areas of social science, correlations must be interpreted with caution, as they do not provide any direct evidence of what causes what. The graphs presented above provide some insight into which variable correlates to which, both at significant and insignificant statistical levels. The author provides incidental evidence based on rather simple two dimensional correlations. These findings, however, represent no causal prove as to any possible effects of tolerance.

- On the one hand the graphs illustrate, to what extent tolerance - and its opposite intolerance - persist as norms in regional milieus. Cities and regions clearly differ as to the percentage, tolerant/intolerant attitudes enjoy support in local milieus.
- On the other hand, however, how exactly tolerance is helping to induce (resp. intolerance is impeding) regional GDP per capita, household income per capita and start ups remains unproved territory.

In fact, only a few conclusions seem to be valid from our data analysis. Our findings do not allow any reliable insight into the black box. The exact causal mechanism - which mix of factors causes what und how the causal link actually works - remains in darkness. Disentangling causes and consequences is a difficult task.

In our view, however, it seems not unrealistic to add a few lines of reflexive thinking. Although final evidence is still missing, one could very well argue about possible indirect effects, tolerant/intolerant regional attitudes might have.

Analysing the contribution of tolerant (intolerant) regional milieus versus demographic factors, education, institutional change and capital is a exercise worth to be considered. Is a tolerant atmosphere at city-regional levels possibly an favourable condition in speeding up the process innovation, knowledge generation, and more so for creativity ?

The final part of this paper is devoted to some reflection about the possible contributions of tolerance/intolerance in the wider context of the regional development literature such as the endogenous economic development paradigm, the knowledge discourse and the theory of innovative milieus, thus we explore several hypotheses related to the intertwined mechanisms that result in observable measures of regional change. We try to give preliminary answers to the question, if and in which way tolerance (intolerance) has an effect onto knowledge

creation and absorption. Using the concept of the firms being embedded in regional milieus, tolerance/intolerance as an element of the regional milieu, might very well be understood as being an essential element in the chain of causal links, although by far not the only one and not the most important.

In doing so, we may run into problems. Investigating the causal link may result in a “classic” deadlock situation, where it is impossible to figure out in which direction any causation works. To quote M. Storper (1995): “Innovation occurs because of a milieu or a milieu is what exists in regions where there is innovation ?” One has to be aware of perhaps unintentionally being trapped into any kind of circular reasoning. However, the debate should not stop here. In many cases, although the chicken-egg syndrome cannot be solved, the causality dilemma can very well be conceptualized as a dialectic relation of the variables investigated: This means, the mechanics of causes and effects may be working in both directions.

First, in drawing on publications following Paul Romer`s (1990) and Robert Lucas` (1998) endogenous development theory, we have to be aware that the focus in regional science within the last two decades pretty much shifted towards researching knowledge, innovation and technology as driving forces of regional change. In fact, inquiries into the globalization of markets are increasingly directed towards the firms growing dependency upon high-end knowledge enabling them to constantly updating their products, services and processes in the light of the product life cycle (Vernon, 1966; Durnaton, Puga, 2001). As Ash Amin and Patrick Cohedent have argued, research on the geographic dimension of both processes, knowledge generation and knowledge absorption, may hold the key for understanding spatial dynamics in the 21. century (Amin, Cohedent, 2004). Research on knowledge, innovation and learning had a tremendous impact on setting the agenda in the regional science discourse in recent years (Malecki, 2000; Glaeser, Maré, 2001; Acs, de Groot, Nijkamp, 2002; Boschma, 2005, Asheim 2009). With reference to this discourse it seems worthwhile to reflect about tolerance/intolerance as helping (or impeding) the speed of the process knowledge is generated and absorbed at regional levels. It is not unlikely, to assume that residents, firms and policy makers having a strong (or weak) association with liberal, open-minded, diverse, and tolerant values contribute to local milieus, that – vice versa – may result in a better performance in economic growth terms versus those rival city-regions that range low in terms of their tolerance profile.

Second, building on this body of research the concept of collective learning has been introduced (Lundvall 1992; Nonaka, I, Takeuchi, H., 1995; Asheim, 1996; Maskell, Malmberg 1999). Under the assumption that no single firm or city is able to assemble every piece of knowledge necessary for radical innovations, speeding up the innovation process requires not only individual capabilities, but the ability to work in networks, occasionally called regional innovations systems (Lundvall, 1992) and to (re-)combine missing elements of knowledge by recourcing those contributions from experts or institutions in other regions or distant countries. As the generation of new knowledge instantly depends on bringing together every single piece of both codified and tacit knowledge necessary for breakthrough innovations, firms need locational flexibility as to they prefer to bring the much needed various experts together and to figure out, weather electronic media can substitute for face-to-face contacts. Without going into details, large cities and regions, hosting universities and research facilities, still best allow for an easy (re-)combination of the various pieces of knowledge. These city-regions are in a good position competing for innovations. Any missing expertise – if necessary is being recruited from distant places via short visits, conferences or workshops. The collaborative generation of new knowledge seems to work faster in large

agglomerations with an open-minded and tolerant mentality, not only because of diminished transactions costs - personal contacts could be established easily – (Bathelt, Glückler, 2002), but also because the modes of co-operation are eased as long as cooperation is based pretty much on mutual trust. (v. Einem, Helmstädter, 1997).

Third, with reference to the absorption of knowledge, another aspect needs to be added. City-regions with a tolerant open minded atmosphere also seem to prevail in this respect. Because research and development requires drawing on findings, innovations and knowledge generated elsewhere, the speed picking up these new ideas through easing diffusion is crucial. Thus the level of prior related knowledge is becoming important. As Cohen, Levinthal argue, the level of knowledge, already existing in a city-region largely determines whether new knowledge can be absorbed at all (Cohen, Levinthal, 1990; Rogers 2003): This means: Cities and regions can only hook up to the international discourses, if they are open to new ideas diffusing and if they possess enough prior related knowledge, enabling locally based firms to swiftly understand and to instantly judge the potential of any new concept, technology or idea, that might add to the regional knowledge base (v. Einem, 2009). Even contacting and learning from other scientists via conferences, short meetings and electronic information channels residing seem to work faster in regions that benefit from their liberal and tolerant pre-existing human capital base. A broad spectrum of existing high-end skills together with modes of liberal and tolerant communication help city-regions to compete, especially if the regional social milieu is dominated by an open minded mentality and oriented towards curiosity. Both the level of prior related knowledge and the openness for being instantly infected seems to be play a role.

Forth, widening the perspective to regional milieus may – in particular - be fruitful. Starting from the notion of the embedded firm, it is widely acknowledged that firms are still geographically bound to certain locations and labour markets (Oinas, 1997). By now, it is beyond dissent that firms still need a regional base for localizing their headquarter, their research and development departments, their manufacturing workshops, and their marketing and service branches. Each of these facilities usually has its own profile when searching for a new location (v. Einem, Diller, v.Arnim, 1995). Also for the purpose of recruiting personal for both management and executing staff firms depend on local/regional job markets. Since M. Granovetter (1985) in drawing on K. Polanyi's (1944) the theory of “embeddedness” has gained acceptance in regional science (Grabher, 1993) resulting in conceptualizing regional economies to be rooted in regional societies.

Fifth, following the Italian – French school of thought, regional scientists adopted the concept of the innovative milieu and applied it to analyse the networks of the Third Italy as well as to those in Baden-Württemberg, the British M4 corridor, Denmark and regions such as Grenoble, Barcelona and others. (Aydalot, 1986; Aydalot, Keeble, 1988; Beccantini, 1990, Camagni, 1995 a; 1995 b; Camagni, Capello, 2002). Camagni characterized the learning effects of the milieu by pointing to imitation at reduced search costs, due to inter-firm cooperation with little or no coordination (Schamp, 2000). In their view, the various actors of a regional milieu are to some extent bound to follow the norms of the milieu, that are regulated via social sanctions, constituting a kind of social “glue” (Camagni, Capello, 2002, 18). Both managers and employees in planning and reflecting future strategies do not act independently from local conditions of the milieu. In addition the jointly used technical infrastructure, the mix of skills in local labour markets and local governance structures reinforces joint perceptions. In a sense actors that belong to a specific regional milieu depend on the norms and values shared by most regional residents. In some cases they even tend to “obediently” follow the specific norms and values shared at the regional level. The notion of

embeddedness in such regional milieus also refer to the cognitive horizon of what is collectively considered to be put on the agenda and which themes might be neglected or even avoided. The perception of both problems and what could be done about solving those problems might be stimulated or restrained to the limits of the normative value structure of regional milieus. Research provides evidence that both the selection of issues and the speed of innovation are to some extent influenced if not predetermined by the norms of the local milieu (Camagni, Capello, 2002), thus shaping the dynamics of regional change. Innovations have a socio – anthropological dimension and tolerance is but one element in this.

In its elementary meaning, the concept of the innovative milieu reminds the reader at Alfred Marshall`s observation of something "being in the air" (Marshall, 1920). Through its tolerant mentality collective learning is eased in metropolitan agglomerations (Maillat, 1998; Storper, Manville, 2006). Both firms and employees by being embedded in regional milieus, that are characterized by its open atmosphere, share general patterns of reasoning, norms, values and modes of thinking, thus being "victims" – unintentionally – as to what constitutes a tolerant regional mentality.

Beginning with the very early stage of collective innovation processes, individuals in creative teams need acceptance by others (even within bureaucracies and universities) to avoid early discouraging research. Tolerance stimulates experimental attitudes and helps to avoid time consuming detours in innovation processes. In this sense, innovative milieus may act as incubators via inducing competition for constantly generating new knowledge (Camagni, Capello, 2002), which over time hardly could be kept secret and retained from diffusing. One powerful transmission mechanism is the ping-pong effect of the local labour market. Switching jobs – within or across the boundaries of the region - de facto works as an effective transfer-channel helping new knowledge to get diffused, allowing swift adjustments and constant recombination of knowledge, predominantly at the scale of cities and regions.

Summing up, research seems to support the notion that innovations in global markets critically depend on speeding up the process of knowledge generation and knowledge absorption. This process may be stimulated by a regional innovative milieus, thus innovations may very well benefit from a tolerant and open minded atmosphere, because in this kind of setting not only curiosity dominants, but unconventional creative new ideas, deviating from traditional thinking, might easier be accepted and possibly even be encouraged, thus enhancing knowledge. In particular, knowledge absorption through infection may occur – in analogy to medical infection theories - at higher speed (v. Einem, 2009). In a more tolerant milieu firms might be able to better meet the time constrains typical in the global competitive race, enabling them to stay ahead of other competitors.

Much remains to be done. As a next step research into the mechanics working within the black box might be on the agenda. As we are still far from fully understanding the complex and multi-dimensional patters of interacting causes and regional consequences (distinguishing independent from dependent variables) exploring possible causal links seem appropriated as a next step (Martin, Sunley, 2003). At this stage, in-depth case studies might best be feasible, because any investigation into milieu specific regional levels of tolerance and their possible causal links to regional economic dynamics and performance still requires venturing into unknown territories. Quantitative follow ups and modelling will be needed at a later stage.

In which direction exactly the causal "mechanism" works and how these factors interact, need a heuristic approach. Through the lens of how these factors act in collaboration in a longitudinal perspective, either inducing or hindering the dynamics of regional change, further

insight might be gained. It is recommended facilitating research along an evolutionary design (Nelson, Winter, 1982; Boschma, Martin, 2008), because this approach best enhances our understanding of why city- regional dynamics often seem path dependent. In doing so, evolutionary research seems to have succeeded in over-coming the problem of not knowing, how any development process initially got started in the first place. Historic research on co-developing businesses, governance, technology and the milieu contribute in a heuristic fashion is crucial for our understanding upon how the various factors interact. In this respect a co-evolving perspective is helpful. In designing research of such historic case studies (Schamp, 2008; Boschma, Martin, 2008), it is required to investigate simultaneously under a longitudinal perspective not only the interaction of both firm performances and technical innovations but also institutional and governance arrangements and changes in the value structure of the dominant regional milieus. 6)

Footnotes:

1) Rejecting the stereotypes of the Sixties legacy, R. Florida argues that in his view, the “great divide” started from the counter culture in Height Ashbury (San Francisco) and the bohemians of Greenwich Village (New York) as well as from the Free Speech Movement in Berkeley, but resulted in Silicon Valley and Boston`s Route 128, which for him are the “proving ground” of the new ethos of creativity (Florida, 2002, 193 ff): Silicon Valley for the first time in history allowed for departing from the conventional work ethos and integrating post-materialistic values into experimental and useful computer work and then into business start ups (p 202 ff). Tolerance is meant to include low entrance barriers for both business und people that is “to be a place where newcomers are accepted quickly into all sorts of social and economic arrangements” (Ibid, 250) and where venture capital is freely available (Ibid, 52) Prior to his book on the “creative class”, R. Florida along with his colleague M. Kenney had conducted research for some years on car manufacturing at the Honda factory in Columbus/Ohio and of the electronic businesses in Silicon Valley, thus it might be understandable that his concept of tolerance is influenced by what he investigated there (Kenney, Florida, 2000).

2) Due to the data-distortions stemming from tax-transfer payments to East Germany in the years following unification, Leipzig and Dresden were excluded from the analysis

3) Before so doing, it might be appropriate, to cite a most interesting panel study, based on interviews that attempt to measure anti-liberal, intolerant and even discriminating attitudes among residents against foreigners. In fact, it might be tempting to think of the annual panel interviews with residents in a cross-regional perspective asking for attitudes and value changes, so to speak the other side of the coin. In Germany this approach has been followed by Wilhelm Heitmeyer (University of Bielefeld), interviewing a panel of 2000 residents annually. He investigates the shares of ethnic and racial discrimination, prejudice or anti-tolerant behavior against immigrants and foreign born population. In fact, both racial and ethnic discrimination has been a persisting fact in Germany, predominantly in rural areas, thus severely discouraging investment into the local economy. Heitmeyer specialized in the field of social discrimination studies and gained access to detailed information on changes of values and attitudes, enabling him to draw up a pattern of intolerance and discrimination. Through his publications the audience learned a lot about persisting anti-liberal resentments and intolerant prejudices in the country, in particular discriminating against foreign born residents. Unfortunately, the work he has been doing does not allow for any regional disaggregation. His data are available at the national level only, but not at the regional level. (Heitmeyer, 2005, 2009)

4) The profiles of Die Grünen and the FDP are summerized in both parties electoral party programs; they present cornerstones the two parties stand for. (Die Grünen, 2009; FDP, 2009)

- The Greens (Grüne) grew in the seventies out of the protest against environmental hazards and damages as well as anti-nuclear energy. Both the 2009 Green program called “The Future is Green” and the parties 2009 “Green New Social Contract” clearly demonstrate that the Greens pragmatically advocate ecological reforms and protecting civil rights in the light of what they claim is a current anti-terrorist security paranoia. The Greens push for tolerance in multi-cultural-ethnic programs, gender and anti-discrimination policies as well as for improving fairness against Immigrants and Non-Germans through

actively integrating foreign born residents. They also stand for respecting human rights, self-reliance and strict judicial controls against abuse of personal data in the internet. They advocate climate change control, renewable energy and modernizing society under the guiding principal of sustainability. With respect to science, the Greens focus on open source und free availability of scientific results, financed by taxes.

- The liberal party FDP (Freie Demokraten) is quite differently pushing pro business policies, self employment, entrepreneurship, deregulating over-regulated markets and advocating tax reduction. The FDP follows the principles of a open anti-etatismus and has a concept of modernity in mind, based on cutting back the social welfare state. The FDP explicitly wants to shift responsibilities from federal and state beaureauracies to the local institutions and the private sector. The FDP advocates better education and - as a second strand of policies - engages in protecting constitutional rights and liberal civic values. In doing so, the FDP brought several cases successfully before the federal constitutional court, thus forcing both Conservatives (CDU/CSU) and Social Democrats (SPD) to reverse unconstitutional laws, that both parties had enacted aiming at restricted civil rights via enhanced controls over data-transmissions in the internet.

5) Selected demographic characteristics of Grüne and FDP (Forschungsgruppe Wahlen, 2009):

- **Greens:** Compared to an average of 10,7 % in the Federal election 2009, the Greens got 18 % of the votes in the category residents holding an university degree und 14 % of the votes of residents aged 18 -29 years. In the state elections in Hessen 2009 the Greens averaged 13,7 %, however among residents holding an university degree, their share was 25 %.
- **FDP:** Compared to an average of 14,5 % in the Federal election 2009, the FDP got 16% of the votes of the residents holding an university degree and 17 % of the votes of residents aged 18 – 29 years. In the state elections in Hessen 2009 the FDP averaged 16,2 %, however among residents holding an university degree, the share was 22 % (Ibid).

6) J.P. Murmanns research on the co-evolution of firms, technology and national institutions with reference to the chemical industry in three countries early 20. Century might serve as a guideline (Murmman, 2003, Schamp 2009).

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