



# SECONOMICS

Socio-economics meets Security

SECONOMICS synthesizes sociological, economic and security science into a usable, concrete, actionable knowledge for policy makers and social planners responsible for citizen's security

Issue 1 - Sep 2013

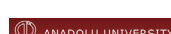
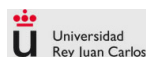
## In this Issue:

- ▶ Editorial
- ▶ Prague Graduate School in Comparative Qualitative Analysis 2013
- ▶ Initial Findings
- ▶ Participant expectations and evaluations

Economics

Society

Security



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# Editorial

Dear Reader,

You are holding the first issue of SECONOMICS Newsletter, whose aim it is to introduce you to this broad cross disciplinary 7FP project. The SECONOMICS project aims to provide a socio-economic rationale to security policy making. This newsletter is dedicated to one of the project's key activities in 2013 - the Prague Graduate School in Comparative Qualitative Analysis. In the three main articles of this issue, rationale, evaluation and first findings of the Prague Graduate School will be presented. But first, let us briefly introduce you to the SECONOMICS project.

The SECONOMICS consortium consists of eleven partners, including research and industry organisations from six EU countries and Turkey. The SECONOMICS project focuses on three key security topics: critical infrastructures, airport security and regional and urban transport. For each security topic there is a case study designed to scope important issues in security management. These case studies are driven by industry representatives NGRID (critical infrastructure), Deep Blue/Anadolu Airport (air transport) and TMB (regional and urban transport). SECONOMICS uses existing and new models from public economics

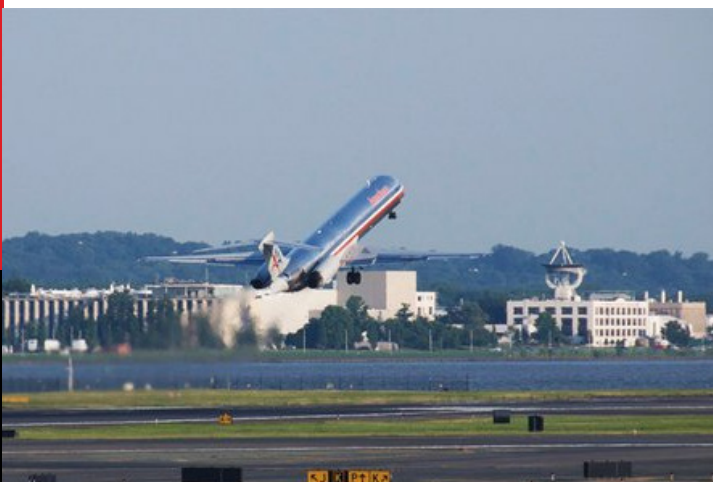
and innovative techniques in social policy modelling to create tools that can assess regulatory policies for their effectiveness and sustainability.

The scientific research of SECONOMICS combines models of game theory, systems modelling, adversarial risk analysis and social policy in a unified framework. This framework will provide insight for policy makers in determining the design of effective security policy, security investment, the public acceptance of security and finally the incentive structure of individuals and organizations with respect to security.

Security risk is a union of security vulnerabilities and individuals and organizations with the incentive and technology to exploit those vulnerabilities. SECONOMICS seeks to fill the gap in the current research by postulating and implementing families of models that seek to mimic attacking behaviour.

The combination of security technology, public attitudes and attacking behaviour can help to delineate the effectiveness of different policy regimes. Risk based models offer a means of adapting to new threats, but there is considerable difficulty in determining the correct mechanism of audit to provide assurance to stakeholders. The economic and public policy environment play an important part in determining the optimal regulatory structures in this case.

With respect to public attitudes, the Prague Graduate School in Comparative Qualitative Analysis innovative research has analysed the attitudes of the public (through the mirror of the media presenting information) on the various security issues highlighted in the project. This work is vital in describing





many of the behavioural characteristics needed in the economic and risk modelling work.

Finally the project seeks to determine future and emerging threats that might arise in the three key security topics by indicating future directions for security risks and the evolution of threats. SECONOMICS goal is synthesizing sociological, economic and security science into a usable, concrete, actionable knowledge for policy makers and social planners responsible for citizen's security.

On behalf of the SECONOMICS consortium we would like to thank you for your interest in the project and look forward to receiving your feedback.

Dr. Julian Williams and Prof. Fabio Massacci  
(SECONOMICS Directors)



## Prague SECONOMICS Discussion Papers (2012/1) Risk Perception Research: Literature and Data Review

*Kateřina Vráblíková*

*Editorial Board: Zdenka Mansfeldová, Petra Guasti, Jessie Hronešová.*

*Institute of Sociology Academy of Sciences of the Czech Republic Prague, November 2012*

In this new discussion paper series, the Prague SECONOMICS team intends to allow the broader academic community taking part in an on-going discussion about risks and threats as well as trade-offs between them and security. This research focus stems from the fact that until now, social scientists have primarily studied threats and risks through the perspective of social psychology by conducting the so-called "risk assessment" analyses, especially looking at the concept of "risk perception".

This research thus aims to probe these concepts in order to broaden our understanding of the multivariate study of risks and threats in social sciences by adding some context-dependent and temporal aspects.

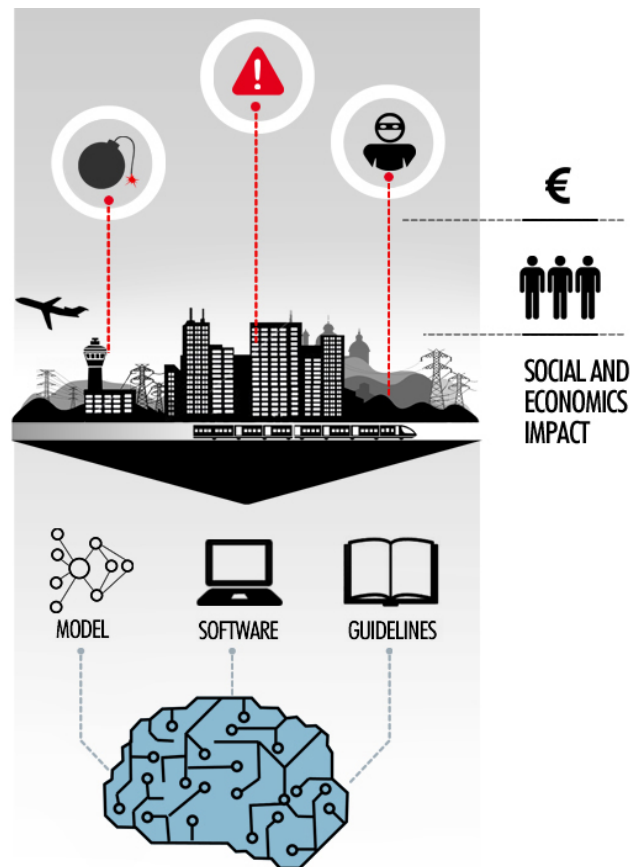
Download from: <http://seconomicsproject.eu/content/risk-perception-research-literature-and-data-review>

# Prague Graduate School in Comparative Qualitative Analysis 2013

Prague, Czech Republic, 13-18 May 2013

Changes in society and the lifestyle of its members, including heightened levels of spatial mobility, have led to significant change in the general perception and acceptance of risk. There is evidence to suggest a decreased sensitivity and changing public understanding of security. Additionally, demographical, societal and political differences behind particular attitudes of citizens in specific cases and in particular countries need to be identified. In general, the population expects from the government maintenance of order and guarantee of internal and external security. However, the citizen/consumer acceptance of various costs (e.g. monetary/non-monetary, visible/invisible, immediate/extended) and the willingness to the risk is conditional and depends on the type of security issue, type of security measures, as well as the level of justification provided by decision-makers.

In the first year of SECONOMICS project (2012), Prague SECONOMICS team led by Dr. Zdenka Mansfeldova concentrated its efforts on establishing theoretical and empirical grounds for comparative analysis of social perceptions of risks and threats. This task was concluded by extensive secondary analysis of existing data on risks and threats covered by cross-national surveys. In the analysis the Prague SECONOMICS team sought to determine varying degrees of risk tolerance as a function of different cultural and socio-economic conditions. The analysis offered important insights into and general overview of citizens' perceptions and attitudes toward risk and security, conditionality of these, as well as attitudes to the various tradeoffs, as demonstrated on the tensions between freedom, privacy and security.



Whilst being closely interlinked with the SECONOMICS case studies (airport security, critical infrastructures and public transport), the quantitative data analysis showed that the use of secondary data has serious limitations especially in terms of limited relevance for the SECONOMICS case studies. In order to address this issue and to enrich its work on forthcoming deliverables concentrating on risk related discourses and communication patterns, the Prague SECONOMICS team decided to supplement the existing quantitative data by its own collection of qualitative data from printed media. The reason for choosing the media analyses are that communication channels and communication patterns between policy makers, stake holders and citizens in the area of security and risk is currently under-researched, and media offer a good

basis for comparative analysis on the topic. Identification of effective channels and patterns of communication and risk prevention for relevant target groups will thus provide an important scientific and practical contribution to the field.

Based on consultations with the SECONOMICS case study partners, three current media salience of themes were identified as relevant for the comparative qualitative analysis. 3D body scanner for airport security case study, Stuxnet for critical infrastructure security case and CCTV camera systems for public transport security case. Relevant articles from period between January 2010 and April 2013, i.e. 40 months were deemed satisfactory to cover the recent development in the area. Criteria for country selection included EU member states (both new and old, with priority given to countries relevant to case study partners – the Czech Republic, Germany, Italy, Poland, Slovakia, Spain, the UK) as well as non-EU member states important in either shaping the global discussions on the selected issues (the USA) or key in providing relevant cultural diversity (Turkey and Mexico). Additionally, four English language expert security blogs were selected to supplement information on communication patterns for general population with those among and towards the security expert community.

Upon identification of relevant topics, time frame and countries a comprehensive analytical framework was prepared. Structure and content of the training for country experts identified relevant media for each country (two main quality press dailies with highest circulation, one left-leaning and one right-leaning per country) and a group of junior researchers were

recruited and trained. The researchers were recruited among graduate students of various social science disciplines across Europe (and from the USA) with relevant academic background to media analysis, linguistic and cultural skills. Their main task was to collect and analyze national reports covering the three topics over the period of 40 months, from 2010 to 2013, as well as provide an analysis of the media landscape in the given country.

The initial research activity encompassed collection of relevant articles from the selected media outlets, the preparation of a quantitative overview in terms of salience of each issue (3D body scanner, Stuxnet, and CCTV cameras) over time. In the next step and together with Prague SECONOMICS team, a qualitative sample was then prepared. The objective of this sample was that it should be representative both in terms of coverage and salience over time. The researchers, again in collaboration with the Prague SECONOMICS team, applied a comparative coding scheme and then analyzes the results of the qualitative analysis accordingly.

Three coding schemes (one per each topic - 3D body scanner, Stuxnet, and CCTV cameras) were prepared by the Prague SECONOMICS teams and its project partners, tested in three initial pretests, and finalized during the second pretest on all selected countries. The role of the coding scheme as a research tool is twofold. First, it provides structure and guidelines for the analysis. Second, it ensures comparability of the individual national reports. An important measure of tool validity is an intercoder reliability test. This was performed daily during the practical part of the Prague Graduate School



for Qualitative Comparative Analysis.

The reliability test works as follows. Each coder had to code English language article, using the existing coding schemes, subsequently, members of the Prague SECONOMICS team evaluated and compared the extent to which all coders identified same sequence for coding and applied the same codes. The results of the intercoder reliability tests were extensively discussed with the group and if necessary also with individual coders, who deviated from the general line. This tool provides participants/coders with the understanding of the general logic of qualitative comparative analysis, gaining insight into the coded material as well as shaping their ability to fully grasp the meaning behind the individual codes. The intercoder reliability oscillated between 80 and 90%, which from a methodological perspective

this is an excellent result considering the international and multicultural nature of the SECONOMICS comparative research.

The Prague Graduate School for Qualitative Comparative Analysis was divided into two blocks – first providing theoretical and methodological insights into political communication, public opinion and security issues, qualitative comparative analysis and the work with software for computer assisted qualitative analysis. The second block consisted of practical hands on training and combined individual and group instruction, exercises, intercoder reliability tests and discussions. The aim of the first block to provide junior scholars from the ten selected countries theoretical and conceptual background; make participants acquainted with goals, aims and approaches of the SECONOMICS project (introduction by SECONOMICS Research Director Dr. Julian

Williams), as well as the practical ability to apply the selected software for qualitative data analysis. The aim of the second block was to ensure, that participants will be able to identify relevant text sequences and codes, as well as make the next step from analyzing to drafting their report and summarizing the results. In order to assist



the participant, extensive reader covering all issues, as well as codebooks and report structure were provided.

Base on the participant evaluation (see separate article covering this issue), it is possible to conclude, that the extensive preparation for this task, which lasted from January to May 2013, and resulted in an extensive database of almost 3200 articles covering ten countries and four expert blogs (see separate article covering this issue), it is possible to see the SECONOMICS Prague Graduate School for Qualitative Comparative Analysis as a successful framework for comparative qualitative analysis.

**Dr. Petra Guasti**



# Comparative Qualitative Analysis

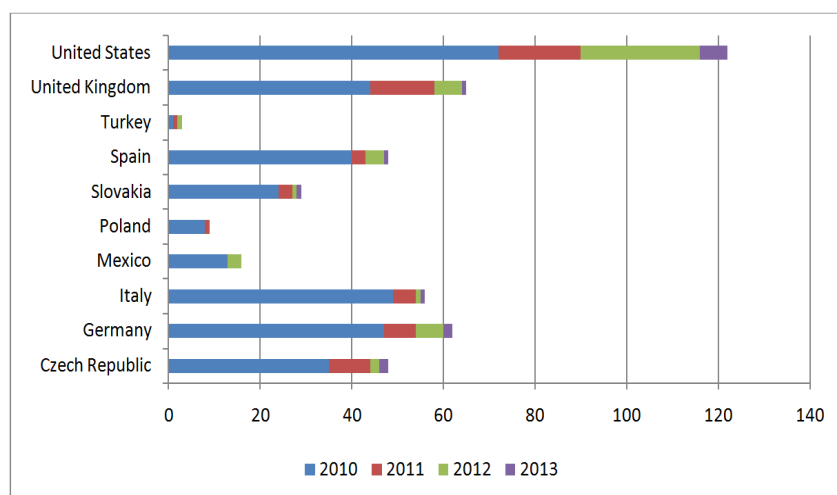
## Initial Findings

Work package four - Security and Society – has several objectives during the first two years of the project. First, the work package has a goal of conceptualising security and risk as a social phenomena. Second, analyse the mutual interplay in public opinion and attitudes and then identify policy interactions between policy makers, industry (stake holders) and citizens (consumers).

In order to supplement the quantitative analysis of secondary data, and to further strengthen the linkages to the case studies. The Prague SECONOMICS team organised and successfully implemented the Prague Graduate School in Comparative Qualitative Analysis 2013. The school serves as a framework for obtaining qualitative data for comparative analysis of risk and security related discourses and patterns of communication. This framework will enable the Prague SECONOMICS team to not only identify effective channels and patterns of communication and risk prevention for relevant target groups, but also generate unique corpus of comparative data on ten countries over the period of forty month. The interim product is a corpus of almost 3200 articles related to issues of 3D body

scanner for airport security case study, Stuxnet for critical infrastructure security case, and CCTV camera systems for public transport security case.

The articles that are analysed in the study were selected from the period between January 2010 and April 2013. Each article was sourced from the two most circulated quality dailies (i.e. mainstream newspapers, excluding yellow press) in the following countries: the old and the new EU member states the Czech Republic, Germany, Italy, Poland, Slovakia, Spain, the UK; as well as non-EU member states important in either shaping the global discussions on the selected issues (the USA) or key in providing relevant cultural diversity (Turkey and Mexico). Additionally, four expert security blogs were selected to supplement information on communication patterns for the general population with those among and towards the security expert community. The twenty national newspapers contributed over 2800 articles for the given period, the expert blogs contributed approximately 400 articles. In the following figures we offer the first comparative preview into the saliency of the three selected issues in the ten countries over time.



**Figure 1.** The Saliency of the 3D body scanner issue in the media between 2010 and 2013 (in N = number of articles)

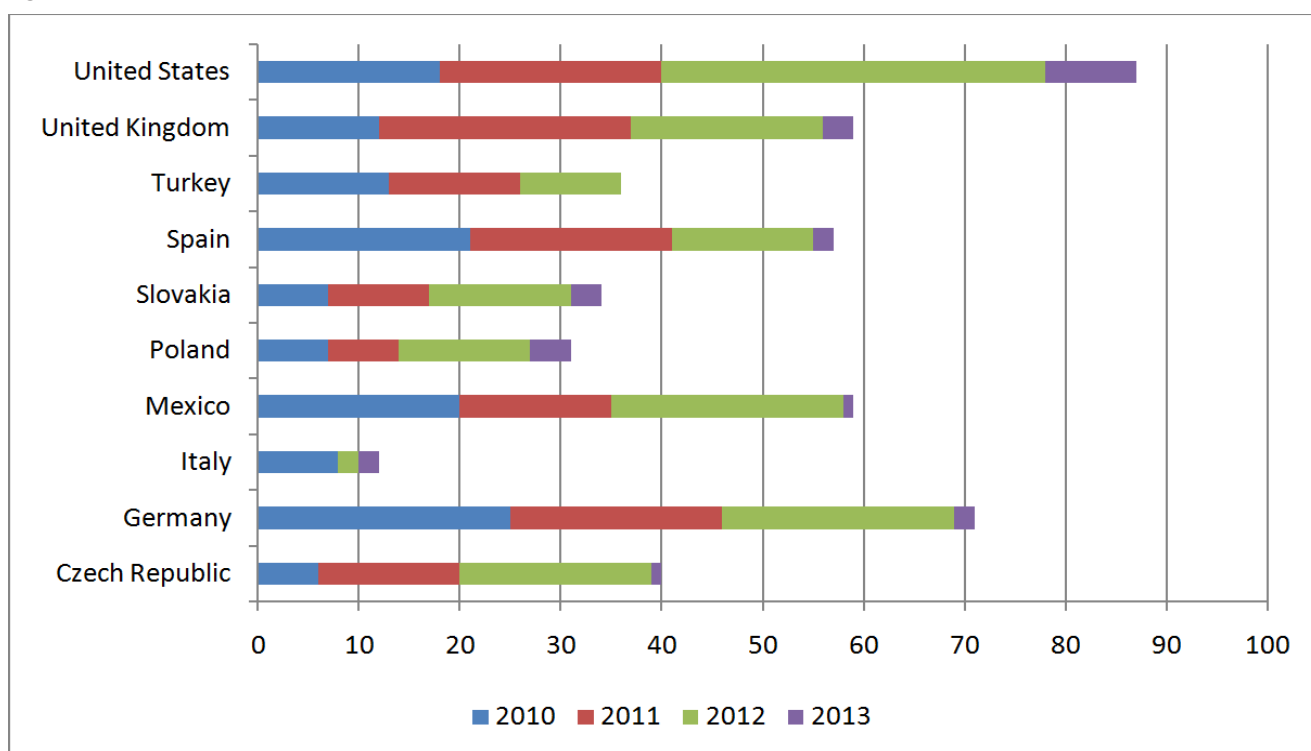
Source: Seconomics Prague



The corpus of articles on 3D body scanner comprises almost 500 articles. As the figure one demonstrates, most articles in this sample were identified in the US media, followed by the UK and Germany. We can say, that the issue of 3D body scanner was most salient in these three countries

and least salient in Turkey, Poland and Mexico. Furthermore, the figure one also demonstrates that 3D body scanners were most salient in 2010 (333 articles) and is gradually becoming less salient over time (14 articles in total for the first four months of 2013).

**Figure 2.** The Saliency of the Stuxnet issue in the media between 2010 and 2013 (in N= number of articles)



Source: Seconomics Prague

The corpus of articles on Stuxnet comprises also almost 500 individual articles. As the figure two demonstrates, most articles in this sample were identified in the US media, followed by Germany, Mexico and the UK. We can say that the issue of Stuxnet was most salient in these four countries and least salient in Italy, Poland and Slovakia. Furthermore, the figure one also demonstrates that Stuxnet issue was most salient in 2012 (175 articles) and is

rather stable over time, with a slight drop in salience in 2013 (27 articles in total for the first four months of 2013).

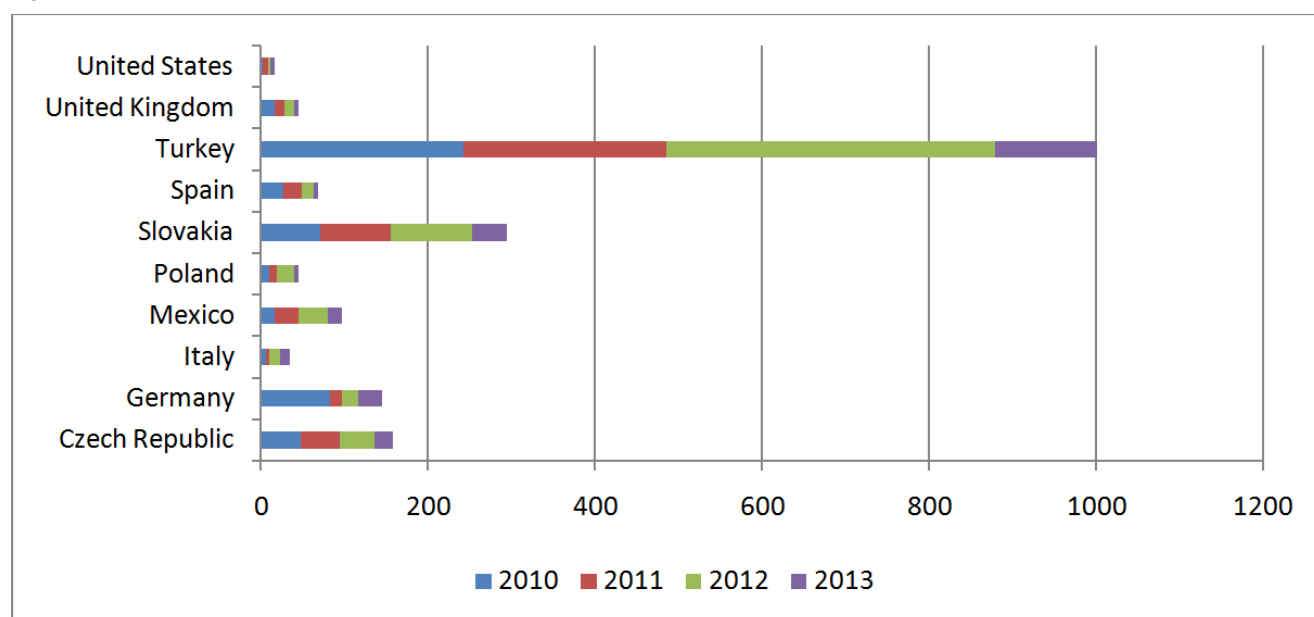
The corpus of articles on CCTV cameras (figure 3) is significantly larger than the previous two, and comprises also almost 1900 articles. Furthermore, in the figure three Turkey can be clearly identified as an outlier, as it contributes 1000 articles to the overall sample. The saliency<sup>1</sup> of the CCTV

<sup>1</sup> Saliency is a term in public opinion, communication and policy research; originally developed in semiotics and referred to relative prominence of a sign; in communication research saliency refers to accessibility of frames (i.e. narrative structures in which information are presented) in (mass) communication.

cameras in Turkish media is caused by the frequent use of CCTV cameras, as well as its utilization by police during investigation. Nonetheless, excluding Turkey, CCTV cameras would still remain the most salient issue. As figure three demonstrates, most articles in this sample were identified in Turkish media, followed by Slovakia, the Czech Republic and Germany. It is also important to note, that the selection concentrated on articles referring to the use of CCTV in public transport. This restriction

was applied to eliminate possible inflation of the sample by articles related to the general use of CCTV cameras in criminal investigation. In figure three we also see, that the issue was least salient in the US, Italy, Poland and the UK. Furthermore, the figure three also demonstrates that the saliency of the CCTV camera issue is relatively stable over time with a subtle growth in 2013 (253 articles, or 131 excluding Turkey for the first four months of 2013).

**Figure 3.** The Saliency of the CCTV camera issue in the media between 2010 and 2013 (in N= number of articles)



Source: Seconomics Prague

To summarize, this initial comparative analysis provides an interesting insight into the saliency of the three selected issues over time and across the ten selected countries. For a comparison, the saliency of the three issues in expert blogs differs. Our research shows that, for the period under study, the expert blogs identified Stuxnet as the most salient issues (274 articles, which is almost 80% of the expert media corpus), this is

followed by 3D body scanner (48 articles) and CCTV cameras (23 articles).

A cross section of findings will be provided in the national reports (and the expert report<sup>2</sup>) and in the comparative report. These will allow more contextual information – explaining what was going on in the country vis-à-vis security and in particular the discourse on the three selected topics. We will provide analysis on

<sup>2</sup> The analysis of blogs is not national, but rather international as four English speaking blogs were selected based on their relevance among the security experts.

the laws, public debates, incidents, terrorist attacks including documented attempts. Furthermore, we will report an in-depth descriptive analysis of actors, topics, and justifications over time including fitting quotations; and analyse the general trends of the main discussions on each topic. We

will look for prevailing themes, dominant patterns of interaction and comparing the three topics in terms of intensity and type of debate, as well as the influence of domestic and international context.

Dr. Petra Guasti



# Prague Graduate School in Comparative Qualitative Analysis 2013

## Participant expectations and evaluations

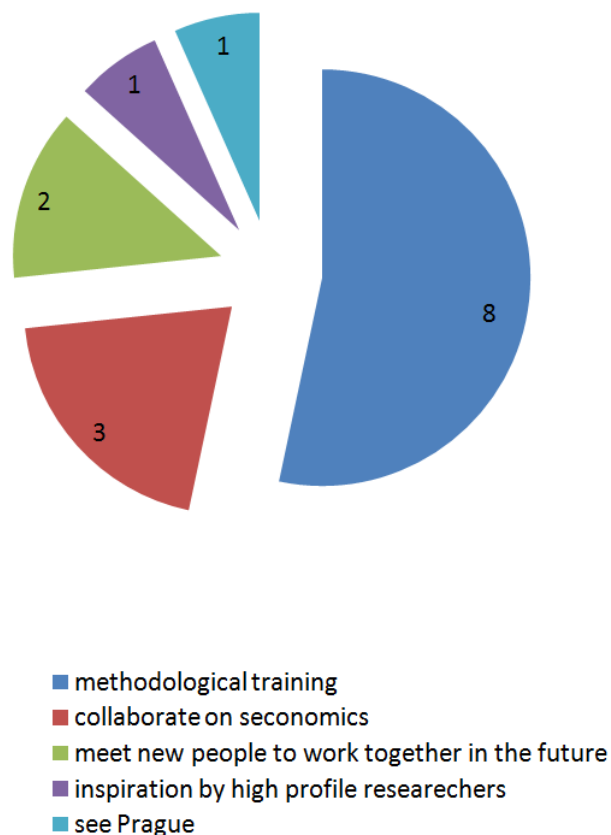
The Prague Graduate School (PGS) in Comparative Qualitative Analysis serves as a tool to obtain data for the comparative analysis of risk and security related discourses and communication patterns. In order to provide validation of this tool and hence understand the motivations, expectations and satisfaction of participants, three rounds of participant survey were performed.

Participants were selected based on their motivation letter, curriculum vitae, as well as expertise. Total number of eleven

participants took part in the PGS covering ten countries (and stemming from eight countries), among which absolute majority were graduate students (exception were two advanced undergraduate students and one post-doctoral researcher), seven participants were female, four male; most were under 30 years of age.

The first round surveying the expectations of individual participants was performed on the first day of the PGS. The results of this brief survey are best demonstrated in figure 1 below.

Figure 1. Participant expectations



Source: Seconomics Prague



The first survey, was anonymous, and based on single open ended question, more answers were possible. Subsequently, the answers were clustered in five categories. As indicated above, most participants were motivated by desire to obtain methodological training. At this place it is important to say that three of the eleven participants were members of the Prague SECONOMICS team and hence, they were trained prior to PGS, hence in their case, more relevant motivation was collaboration on SECONOMICS project (second most often mentioned reason). The third category is also interesting as participants were also motivated in establishing collaboration networks for the future. The communication with the participants upon the conclusion of the PGS revealed that two participants are planning a joint research paper on security related issues using the knowledge gained. Last two categories are inspiration by high profile researchers and to see Prague. This is confirmation that both lecturers and location played role in participation.

The second survey took place on the sixth and the last day of the PGS. Again anonymous, and open, this survey included three questions, first, whether the participants' expectations were met, what were then most positive features of the PG; and what could be improved for the future. To the first question, all participants answered positively. Most expectations have been met and in most cases also surpassed.

Participant 1 wrote "I've improved my knowledge as well as learned about how EU projects work. The academic standards have been even higher than I expected." Participant 2 wrote "... I would like to

say that the entire process was very well thought out from the topics covered, in what order to the very structure of the day work, break, work, lunch etc. I think that the instructors were able to build confidence in participants as the program progressed and always addressed our issues with constructive feedback. The environment was very pleasant to work in and we were able to collaborate, while working independently."

Participant 3 added "I especially [liked] inter-coder reliability test when we could compare our ideas and set the problem into a wider context. Also [liked the exercise of] trying how to write the report, as it was very good for our future analyses."

In terms of improvable issues, these ranged from temporal (some participants would prefer to start later, other would have preferred to include mid-week break), dietary (not everybody liked the sandwiches on Thursday, other praised the food as fantastic) to procedural (for some participants, extensive discussion was unusual, as they are not acquainted with this instruction method, however, it was also acknowledged, that this allowed everybody to feel to be a part of the process and be confident about the outcome – the final version of the coding scheme). From the participants' own words, we see that the Prague SECONOMICS team has succeeded in providing encouraging learning space, content and training and all participants were satisfied.

Third participant survey was performed online six weeks upon the completion of the PGS, during the period when participants are individually working on

their national reports. The resonance of this nine questions survey was lower (five participants answered the nine questions, some of which were opened, other offering several options based on answers in previous surveys).

The first question inquired about the way in which participants became aware of the SECONOMICS Prague Graduate School. This question is important for future use of this tool, as it allows for evaluation of the effectiveness of various recruitment methods. In case of the PGS, as the most effective method proved the use of scientific networks as well as direct targeting of possible participants. Second question, again addressed the reasons leading to application for the PGS. The answers confirmed the results presented in the figure 1. The next question revealed more about the background of individual participants (and confirmed information included in the letter of application – most participants took part in social science method training, qualitative or quantitative, prior to attending PGS. Next three questions (Q4, Q5 and Q6) inquired about the usefulness of the provided materials, instruction and practical training. All three were evaluated as very helpful (instruction was higher rated as materials, practical part was rated the best). At this time point the positive answer to question six is very important, as it attests that practical training equipped participants with skills necessary for the successful elaboration of national report.

The next two questions inquired about the effectiveness of the one-on-one sessions (each participant had at least two one-on-one session with the main instructor,

this allowed for more free discussion of individual work and questions related to specific issue of the given domestic media sample). Individual training was also used as a way to overcome differences in participants' different methodological backgrounds. Question eight evaluated the overall satisfaction with the PGS stuff, which was very high as members of the Prague SECONOMICS team were seen predominantly as extremely helpful. The last questions were open and asked about overall learning outcomes and satisfaction. The results confirm the outcomes of the second survey.

Participant 1 wrote "First of all, I gained a better understanding of coding in qualitative textual analysis. I better understood the concepts and processes behind qualitative textual analysis and also got a hands-on experience of working in a team on a common project." And participant 2 wrote "As I see it, more important than what I learnt is how inspired I was by an outstanding research as well as by a number of great researchers and classmates."

To summarize and conclude, the opinion and words of the individual participants, the three surveys provided very satisfactory tool validation; most participants were very satisfied with the process and the outcomes. At this place it is important to note, that the participant support by the Prague SECONOMICS team did not conclude with the PGS, personal, online and group support is provided continuously, ensuring quality of the final product, i.e. national reports. However, the best attest of the success of the Prague Graduate School in Comparative Qualitative Analysis 2013 are the information on the progress

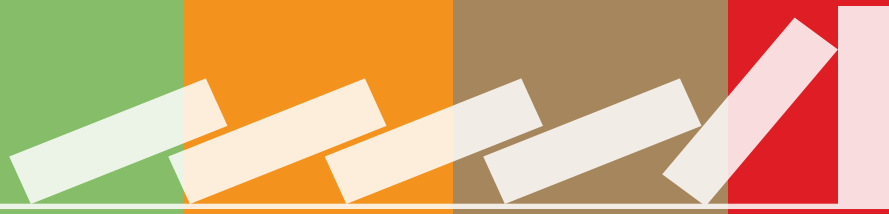
of individual national reports. At the time of writing this article (mid-July 2013) all reports are progressing well, and in one case report was submitted, successfully passed quality review, and is currently being finalized by the author based on comments provided by reviewers.

Dr. Petra Guasti



## Benefits





# SECONOMICS

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## Contact Info

 Project Coordinator: Fabio Massacci  
Università degli Studi di Trento  
 [Fabio.massacci@unitn.it](mailto:Fabio.massacci@unitn.it)



[www.seconomicsproject.eu](http://www.seconomicsproject.eu)

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