Chapter 3.

Case histories

In this chapter we will have a closer look at four cases of risks or catastrophes that have caused or could have caused social unrest. We are interested to explore why social unrest has occurred and what secondary impacts have produced what kind of expressions of social unrest. The four cases we selected are the outbreak of H1N1 in 2009, the unrests in Greece related to international financial crises, cyber related risks and the hurricane Katrina. First, we will describe the case histories and distill the main structural elements that characterize the dynamics of each case. Second, we will compare the cases and identify their common elements. These common elements form the building blocks for our own model.

The four case studies are very different in nature and access to data. With respect to hurricane Katrina sufficient empirical material was available to perform our analysis. In other cases such as the protests in Greece or cyber related risks reliable sources for empirical evidence were rare. So we had to draw from newspaper articles or rely on expert interviews. Hence, the analysis of the four case studies varies in their scientific validity.

Financial crisis: Greece 2010

In 2008 various demonstrations and strikes took place in Greece as a response to the lack of job opportunities among young people. This protest was present not only in Athens but also in almost all larger cities in Greece. The demonstrations were aggravated by the death of a young demonstrator who was shot by the police on Dec, 6th 2008 (Eckert, 2008). In the end, university campuses, radio stations and even the studios of the National Television were occupied by protesters for some time (Sotiris, 2010).

Reasons for this first outbreak of public dissatisfaction are numerous: Young people are faced with a more than 20% youth unemployment rate in Greece in the year 2007 which is one of the highest rates in Europe (Tausch, 2009). Challenging entrance exams, requiring hours of extra courses and expensive tutorials and limitations of access to higher education worsens this problem. Even with a university graduation it is difficult to get a decent job in Greece. In some texts the younger generation facing these problems is called the 700 Euro generation because of the low salaries that they receive upon graduation from university (Sotiris, 2010; Bratsis, 2010). This situation became even worse with the introduction of the Bologna process that caused a tendency to de-link university degrees from professional qualifications, and made the opportunities for a well-paid job even more uncertain. Furthermore it was considered to legalize private higher education in Greece that is normally excluded by the constitution. Thus, the protest movement of young people in Greece was triggered by the perception of social misbalance and inequities as well as the experience of missing reactions by the public authorities (Sotiris, 2010).

In contrast to similar uprisings in France or other countries, the riots in Greece seemed not to be limited to a certain group of young people such as students or socially disadvantaged youngsters but included a large cross-section of society within the younger generation. Some authors explain this breadth of the movement by referring to the fact that all young people in Greece face similarly bad employment conditions (Sotiris, 2010). However, some observers detect a new quality of protest in this Greek case. Most demonstrations happened in different cities during the same time employing similar strategies and means of actions. The demonstrations were obviously coordinated by using modern communication technology, in particular cellular phones. The riots in Greece calmed down in 2009 but with a further decrease of economic prosperity in the country mainly linked to the world financial crisis, experts expected a new wave of uprising in 2010. And this expectation turned out to be true.

With the advent of the world economic crises and a national new debt of about 13% of the Greek national budget, the Greek economy faced a serious financial crisis. Those new debts endangered the stability of the Euro in all countries in which the Euro became the national currency. Driven by demands of the EU and the International Monetary Funds, the Greek government and parliament passed a plan on 06 May 2010 that included drastic measures for getting the national debts under control in exchange for monetary guarantees by the EU and the IMF. The Greek government promised to reduce national debts to 3 % of the gross national product in 2011 (this amounts to EUR 25 billion). To reach this goal the Greek government decided to reduce the wages for governmental employees, to lower pensions and to increase the value-added tax. Also taxes on products like tobacco or alcohol were increased. Military expenses were also reduced (Spiegel online, 2010a; Spiegel online, 2010b).

Against these massive measures of reducing governmental spending, many people (this time not only the young) started protesting. The reasons for the protest are manifold: Only around 40% of the interviewees of a representative survey by "Kathimirini", a daily press organ, believed in the ability of Greece government to resolve the financial crisis and social problems within the country (Pick, 2010). Many people in Greece live below the poverty line - in 2008 around 20%. During the protests mainly organized by the labor unions violent outbreaks occurred causing the death of three people. After this dramatic event the riots came to an end.

What do we learn from this case?

The death toll of four appears rather low compared to other riots of this kind. The monetary losses amounted to roughly 25 billion € This includes all costs directly connected to the demonstrations and strikes. Additional monetary losses that are connected for example with loss of international confidence in the ability of the Greek government to master the crisis might increase this amount dramatically. However, the main risk is not related to human lives or assets but to the lack of trust in the institutions of government and its ability to resolve the problem. The reason for this feeling of missing confidence might be found in a long term history of social tensions and experience of injustice. According to the reports in media, social inequities have been on the agenda for a long time, and have caused protests and outbreaks in almost regular intervals. The riots of students in 2008 were only one example in a long series of public outrage vis-à-vis numerous experiences of governmental mismanagement and inaction. The firm position of the present government may have ignited the protest movement but it also had reconfirming effects to those who always questioned the efficacy of

governmental action. Now almost all Greeks are convinced that the government is serious about reducing the deficits and rejuvenating the economy.

During the recent protests, people organized themselves spontaneously. Similar to the youth movement in 2008, the media such as internet and mobile phones were widely used to coordinate the demonstrations. Labor unions were important actors in organizing the movement. Their main focus was on the effects of the austerity measures on the socially disadvantaged and impoverished social groups in the population. They claimed that the measures were unbalanced and privileged the rich on the expense of the poor. The unions were able to mobilize their members quickly and they were well prepared to organize a large street movement. This might be one of the reasons that the protest appeared well organized and orchestrated. It is interesting to note that the 2008 movement was radicalized when the police shot a young man. The public perception blamed the police for the "accidental" shooting of the demonstrator. This increased the legitimacy of the movement. In contrast, the three victims of the 2010 demonstrations were allegedly caused or at least provoked by the protesters themselves. Three employees of a bank died in a fire that was caused by demonstrators. Emergency service providers complained afterwards that they did not get access to the trapped victims because the demonstrators blocked the entrance to the bank. This time public perception blamed the demonstrators for the outbreak of violence. This de-legitimized the protest movement. It came almost to a complete stop.

Pandemic flue: H1N1 2009

Swine flu is a common disease. The new outbreak in 2009 got international publicity when Magret Chan, the general director of the WHO announced on 11 June 2009 that there is a serious risk for the outbreak of a new influenza pandemic (Cohen and Carter, 2010). The infection is known to experts since at least 1988 as the virus was found in the body of a woman that had attended an agricultural exhibition before. Antibodies were also found in people that came in regularly contact with pigs (Flynn, 2010; Hein, 2009).

The influenza in 2009 can be traced back to the 18 March 2009 in Mexico. The first cases were reported to WHO in April. In May 5 251 cases of influenza were counted worldwide by WHO. According to WHO classification (indicating the progress of an influenza pandemic) the case of H1N1 was attached to level 6. (This scheme distinguishes 7 different steps, where 7 is the most severe case). The reason for the high classification was the observation that the virus spread quickly from the infected to the non-infected population. According to Flynn, in the period between the outbreak of the influenza in 2009 until April 2010, a total of 17 919 deaths were recorded in 214 countries (Flynn, 2010). For comparison: In Germany on average 21 883 fatalities are caused by influenza each year (not H1N1) (Statistisches Bundesamt, 2009). In contrast to the normal influenza, the H1N1 virus attacked predominantly younger people and fatalities were observed even among otherwise very healthy individuals. In addition, pregnant women, younger children and people with chronic lung disease were more at risk than others (Flynn, 2010).

The reactions to the outbreak of the swine influenza differed widely between countries. Some countries suggested to avoid travelling to Mexico, Ecuador cancelled all flights to Mexico. Around ten countries stopped importing pork from Mexico (which according to public health experts was only a symbolic gesture as the consumption of pork was not related to the infection). Many states purchased large amounts of vaccines, in particular Oseltamivir and Zanamivir (better known as Tamiflu and Relenza), spending

billions of dollars. This purchase was advised by WHO executives. In nearly all cases most vaccine portions were never used and needed to be discarded. France, for example, initially ordered 94 million doses of vaccine. In the aftermath of the swine flu incident a stock of unused vaccine of 25 million doses was left over, costing the French taxpayers an amount of EUR 365 million (Flynn, 2010). Many critics blamed the WHO for advising countries to buy large stocks of vaccines. In particular, the WHO experts were accused of having close ties to the pharmaceutical industry which benefitted from the expansive purchase orders. The same critics also accused other major actors such as the Council of Europe for having over-reacted to the crisis (Flynn, 2010).

The composition of the vaccines was also criticized as being not sufficiently tested and authorized. Finally, critics blamed the media for emphasizing and blowing out of proportion the threat of a pandemic. According to Schwarzinger *et al.* (2010) the public perception of a health risk follows the patterns that are presented in the media coverage. However, the media coverage of the swine flu was full of conflicting information and evaluation. This lead to an increased level of confusion "Previous population surveys in the US and the UK have emphasized that after an initially high level of risk perception, levels of anxiety waned along with the perception of the A/H1N1 influenza-pandemic as an immediate threat and that tackling the perception that the outbreak has been 'overhyped'" (Schwarzinger *et al.*, 2010). This sensational reporting had contributed in their view to the lack of credibility and confidence in public authorities (Flynn, 2010).

What do we learn from this case?

The potential of harm in case of the swine influenza can be rated as high, although it appears quite moderate compared with death toll of normal influenza that occurs each year. All in all, there were less than 20 000 deaths around the globe. Numbers of all affected people are not available at this time. Monetary losses are estimated to be huge given the amount of purchased vaccines and other precautionary measures undertaken by public authorities in almost all countries. The potential for social unrest (occasional protests were observed in some countries such as the Ukraine) is not related to the outbreak of influenza but associated with the perception of inadequate or disproportional responses by public authorities. Hence most of the displayed dissatisfaction stems from a feeling of lost trust in the risk regulating institutions as well as in the pharmaceutical industry (which was blamed for taking advantage of the situation).

In essence, the case seems to bear enough potential to provoke social unrest. However, little protest emerged. This may be caused by the rather mild consequences of the disease and the overreactions by the authorities. Overreacting implies a waste of public money, at worst. This is no reason to get seriously upset and start a protest movement. As data from the German national Institute of Risk Evaluation indicate people are in favor of a clear and effective risk communication. That means not only clear information about risks but goes along with the expectation that officials arrange possible prevention strategies in face of a risk (BfR, 2010). If the public officials had underreacted and people had died because no vaccine was available the blame factors would be much stronger and a public expression of outrage would likely occur. Even if there was a huge waste of money public officials are well advised to buy access vaccine rather than facing the risk of having access deaths of people. Maybe just for this reason there has been no organization or group that decided to mobilize the public against the public policies of being on the safe side.

Cyber security

In comparison to the other case studies introduced here, there has been no social unrest triggered by a cyber related incident. For that reason we concentrate on assessment in what ways social unrest could occur as a result of a caber-related incident. Our data basis for this is the paper prepared by Ian Brown within this OECD project, who worked on the subject to reduce systemic cyber security risks.

According to this report events that can be classified as global shocks such as interruptions in infrastructure, finance systems and disturbances affecting the functions of political system and government are most relevant (Brown, 2010). Our question is how cyber-related events could trigger social unrest?

Infrastructure damage related to social unrest

Infrastructures that are most sensitive to human welfare can be grouped into nine categories: These are energy services, government, communications, health, water, energy, financial services, food and transportation.

Dysfunctional behavior of infrastructure can be caused by Internet failures if the operation of infrastructure service is directly linked to commands transported by IT services. Such direct impacts on infrastructure functionality can result from technical failures, errors by operators or malicious actions such as sabotage and terrorism. Most sensitive infrastructure have sufficient devices for redundancy of input services, firewall capacity and contingency routing in place, yet there are numerous examples of technical as well as human failures that have resulted in partial or total breakdown of infrastructural services (Jahner and Krcmar, Rannenberg et al., 1996). Equally relevant are indirect impacts such as the failure of communication systems in the aftermath of an infrastructural failure, for example the loss of electricity. If energy and water supply are out of order, people face problems with securing their basic needs, communicating for assistance or help and even getting financial support (for example, one is not able to take money from automatic telling machines because of computer network failure, Brown, 2010). It is our assumption that social unrest is more likely to expect when IT failures accompany infrastructural problems rather than causing them. If IT is the cause of a disrupted service social unrest will most likely be targeted against the missing service and its organizational representatives. However, if an IT failure emphasizes a given disaster, for example by blocking all means of communication, the unrest may be targeted against the providers of the communication services and those whom they believe represent these services.

What do we learn from this case?

Since this is a hypothetical case we can only speculate that many will express dissatisfaction with a situation of IT failure without providing suggestions for improving the situation. Dissatisfaction will certainly be present in such a case but it will be diffuse and not well organized. Dissatisfaction may occur in cases in which people have to face serious damages (like the loss of relatives or friends) or in that people are dissatisfied with risk management (This might be the case if people are not supported over a longer period of time with water, energy, food and other life relevant goods). Also important in these cases might be the assumption that people believe risk regulating agencies to be incompetent and not prepared to help them improve their situation. If this is not the case unrest might occur earlier or in cases where help is not fully given or only given to few

there might be the accusation for being unjust. A further important factor is media coverage. Broadcasted information that turns out to be not true destroys trust and might trigger social unrest as it was the case during hurricane Katrina (see below).

All in all if dealing with the question of unrest in cases of cyber-related risk we can conclude that outcomes of this form of risk may occur in a similar shape as a result of other risks or disturbances which have the potential for social unrest. Hence, it may not be the cyber related problem that might lead directly to social unrest but the context variables in which the cyber attack might be embedded. The cyber problem is likely to act as a promoter of conflict that will enforce its intensity.

Hurricane Katrina

Information about hurricane Katrina is controversial and it is difficult if not impossible to decide between facts and fiction after the event when investigating the media coverage and scientific studies. We therefore concentrate on issues that were reported in several parallel and credible sources.

The hurricane Katrina took place on 25 August 2005 over the Atlantic as a category one storm. During its way to the Gulf coast it gradually weakened. On 29 August 2005 the storm hit the coast of Louisiana. At this time more than 1.2 million residents tried to flee the catastrophe. Also New Orleans was warned. As many parts of the city are below the sea level it was expected that these parts of the city were at risk to be flooded. And this was indeed the case. During the storm the flood broke down barrages on a length of over 150 meters. Parts of New Orleans were flooded with water levels exceeding 7.5 meters (Rehländer, 2008; Eisenmann *et al.*, 2007). The storm abated in Quebec and New Brunswick (Canada) on 31 August 2005 (Comfort and Haase, 2006).

As category three storm Katrina was not one of the strongest storms the region had faced before but the special circumstances in New Orleans made it nevertheless one of the most destructive. The storm killed more than 1300 people and caused more than USD 80 billion damages; 90 000 square kilometers were affected (Cutter *at al.*, 2006).

Emergency relief was the main problem during the storm. Many people tried to get shelter from the storm in the superdome - the football stadium in New Orleans that soon was filled with more than 20 000 people. Those people were left according to Rehländer without drinking water and nutrition or adequate medical care (Rehländer 2008). According to other reports they stayed without operational sanitary facilities for nearly a week, refugees coming to superdome on Tuesday (30 August) were sent away. (United States Senate, 2006).

In addition, food supplies did not reach the people in the shelters and evacuation was poorly organized. One major reason for the chaotic situation was a lack of coordinated communication among the many emergency relief organization (in total 535) during the first three days after the landfall of Hurricane Katrina. As electronic transmission lines were not operating electronic communication was unavailable to the relief organizations. Cellular phones were also not operating since the phone stations were flooded. Even satellite communication was negatively affected by the storm. The breakdown of communication networks was one of the biggest problems that the emergency relief organizations had to face. They had hardly any opportunity to coordinate their operations. (Comfort and Haase, 2006).

Many citizens who were not able or did not flee into one of the shelters (so as people that could not escape their houses via rooftop or were in nursing homes) drowned. Rescuers had to cope with polluted water and debris as well as with snipers using fire arms. Gunshots were reported as part of looting. The media reported about looting emerging from New Orleans and the surrounding heavily impacted areas. Yet, these reports were not validated by officials. There is a long-standing assertion in sociological literature on disasters that looting is portrayed as a myth. According to professional observers in the city, the media displayed a biased picture of the situation in New Orleans. Reasons for this are seen in the fact that media tried to report about extraordinary events and presupposed the existence of a looting frame without checking the facts (Barsky et al., 2006; Tierney et al., 2006). Another issue was related to race. Mostly black people were among those who were not evacuated. There are several reasons for the members of the black community not to leave town before the disaster. Firstly, many of them do not have private cars or the financial means to evacuate their homes. Others who had private cars were not able to fit all members of the family inside the car and did not want to leave, for example, kids or grandparents behind. They relied on public transportation which was unavailable for my areas in town. Secondly, their homes and the belongings inside the homes is all what they have and so they tried to secure their livelihood as long as possible. Thirdly, poor neighborhoods were in fear of looting and had no confidence in police and other forces to protect their homes. Lastly, many residents of the poor black communities had little trust in the emergency warnings issued by the city government which they felt were not addressing them when recommending evacuation (Cutter et al., 2006).

Looting became a major issue in the aftermath of the disaster. Among the looters were those who cared for their essential needs. Much looting occurred around the Superdome where basic supply was missing. There were also cases in which people high jacked water trucks to support themselves and others. However, there were also reports about organized looting for non-essential goods such as TV-sets or electronic equipment. These looting events did not exceed the number of criminal acts that take place in New Orleans on normal days. Police statistics indicate even a decrease in arrests for looting and other similar offenses in the time after the hurricane compared to average occurrence of criminal acts in times of normality. This decrease may also be due to the fact that fewer arrests could be made because of the disaster. The amount and intensity of looting after the disaster are still contested in the literature (Barsky et al., 2006).

What can we learn from this case?

Katrina as risky event had a high potential of harm. Numerous people were killed or lost their houses or faced other material damages (sometimes they had to be resettled as some of the neighborhoods in New Orleans were not rebuilt). As Katrina was not the first hurricane that hit New Orleans and the surrounding region the institutional responses by emergency relief organizations were clearly inadequate. The failure of institutions was mainly caused by the breakdown of communication networks. This demonstrates how much modern societies depend on communication technologies to coordinate collective or joined actions. The experience of institutional failure caused a decline of trust and confidence in those organizations and institutions that were supposed to provide supply, shelter and assistance. As a result many citizens formed self-help groups to secure their existence. This also included looting for the main necessities of life. However, there was little organized organization of protest, partly because the affected citizens were not organized before the event and partly because the poorer members of the community had little agency and means to make their protest visible to the outside world.

The images of hurricane Katrina have been strongly formed by the mass media. Sensational reporting emphasized looting incidents and occasional shooting. Analysts who collected the evidence after the disaster believed that looting did not occur as frequently as the mass media portrayed it. The coverage of looting distracted from the institutional failures and served as one mechanism to blame the victims for their fate. Although media were full of human touch stories about people's suffering the images that were evoked by the stories were more associated with a strike of bad fate or personal misperception of the danger than of blame with respect to the relief efforts.

Social tensions were frequently reported, in particular feeling of outrage and anger when sheltering did not work out or supply was mismanaged. Experiencing social vulnerability can be a major cause for social unrest or protest. However, it did not happen here. It was obvious that in the aftermath of the disaster the affected citizens expressed anger and outrage. Yet there was no organized protest movement to absorb this anger and to transform it into political action. The organizations that are involved in civil rights movements did attempt to rally against the authorities on all political levels. Yet in spite of the proven insufficiency of the public authorities, the protest did not reach the plateau of major protest or even social unrest as the affected individuals were partially traumatized and unable to react. Many found shelter in other cities and areas of the United States and could therefore not join the protest movements. Finally the vast amount of emergency relief organizations made it difficult to focus on one or a few alleged culprits so that the protest became diffused. However, the story is not over yet. Reconstruction of the flooded areas of town has given rise to many new protest movements that may become more energetic over time. So the end of the storm is not the end of the story since protest against plans of how to rebuild or redesign the flooded quarters have spread throughout the city even in recent times (Moll, 2008).

Comparison of cases

This chapter aimed to investigate those circumstances under which, and the reasons why, social unrests occurs. This chapter draws together conclusions from all case studies. Fist we want to discuss the triggers for social unrest. The obvious hypothesis here is to link unrest with the potential of harm or perceived damages associated with possible causes of social unrest. The cases suggest that something like a threshold or a tipping point needs to be surpassed before people become active. However, the cases do not provide clear evidence on the degree of dissatisfaction that would be needed to trigger political protest. In Greece, the threshold for protests seems to be lower than, for example, in Portugal or Ireland with similar economic problems. Moreover, the responses to the swine flu varied among different countries and the extent of public concern does not seem to be correlated with the absolute or relative number of human losses.

If we rank-order the cases with respect to the extent of damage the case of H1N1 is located on the first place since more than 17 000 died, many people were harmed and huge amounts of money were lost. At the second place comes Hurricane Katrina which caused app. 1300 deaths and several million dollars of damage. The financial crisis in Greece occupies the third position. It caused major economic losses that are difficult to estimate. There were no direct risks to human lives, health, and the environment. The four people who were killed in Greece are the result of the unrest not of the economic crisis.

The degree of social unrest as measured in terms of mobilization follows the opposite order: the financial crisis comes first, followed by Katrina and H1N1. However, one should be aware that this comparison can provide only hints for a weak or even missing link between severity of the trigger and the extent of the social unrest. People have strong beliefs about what they normally expect from a specific trigger. The human losses of H1N1 were probably lower than what people expected while the losses of Katrina were higher than what people would normally associate with hurricanes in the United States of America. In the financial crisis the Greek population had expected that the government had grossly overspent their budget but did not anticipate that it would accept all the austerity measures that were demanded by the EU and the IWF.

The emphasis on expectation as the main yardstick for causing social unrest underlines the importance of risk perception. The main contributor to the perception and evaluation of triggers for social unrest is the coverage of the trigger in the media. The mass media shape the public image of a risk. In the case of hurricane Katrina there is still no conclusive evidence whether looting actually occurred and to what degree. Some authors claim that looting was basically a story invented by the media. This reporting triggered a lot of outrage and fueled further protest. It may even be a promoter for looting as criminals might take the media coverage as an invitation to share the alleged looting teams. Similarly, in the case of influenza the mass media played an important role in amplifying the potential hazards or ridiculing the risk. Since the public has not immediate experience with the new virus it relies on the news media for information. Depending on the overall impression that the media leave on the average citizen more or less concern and even outrage can be the result. As soon as people were aware that the new disease was less dramatic than they were asked to believe anxiety was replaced by anger about the alleged alarmists in politics, media and specific interest groups such as the pharmaceutical industry.

Media coverage played also a major role in the other case studies. If people have no direct experience with hazards or triggers of social unrest they rely on trustworthy sources for information (Renn, 2005). Often the media are the only informants about the potential threat. However, media have only the power to set the agenda or amplify or attenuate existing signals (Dunwoody, 1999). The crisis in New Orleans was caused by an inappropriate emergency management by the US authorities which indeed was amplified by the media. The perception of unfair treatment during the financial crisis in Greece was partly induced by a common feeling of lacking confidence in the economic and social management skills of the Greek government. People were dissatisfied with the performance of their government in Greece, they were angry about the lack of professionalism in emergency relief in New Orleans, and frustrated about the inconsistent and incoherent advice from governmental and other official institutions in the case of swine flu.

The cyber attack case is different from the others because it never occurred. It still remains a hypothetical risk that most nations never experienced – at least in its full impacts. However, one could observe a growing concern of many stakeholder and public groups and associated with this concern demands to industry and government to invest more money and resources for IT infrastructure protection.

All cases studies demonstrate that some kind of external trigger causes a collective experience of dissatisfaction. This is definitely the first step in a long process towards social unrest. The trigger could be a natural hazard, technological accidents or human failures. It might even be an idea, a common perception or experience or a hypothetical

risk. Social unrest rarely occurs as a result of a positive vision. Such a vision may be developed in the aftermath of the dissatisfaction or visionaries my use the dissatisfaction to install a vision in these people. Unless people have the feeling that someone is to blame for a situation that they feel is not acceptable there will be hardly any reason for social unrest to grow. In Greece the financial crises and the problems with perceived governmental incompetence formed the background for the social tensions that emerged already in early 2008. In the case of hurricane Katrina many observers as well as affected victims were convinced that the emergency relief institutions failed to do their job efficiently and also claimed that the relief efforts were discriminating against colored people. In the case of H1N1 many observers blamed the pharmaceutical industry for dramatizing the threat as a means to make more profits. However, the risk regulating institutions, mainly the WHO, but also national public health institutions did not fail their task to protect people. They reacted quickly and professionally as soon as the risk was discovered. The problem here was that they did not act consistently over time and tended to overreact in order to avoid being blamed for risking people's lives. In most political cultures it much easier to survive the accusation of wasting taxpayer's money than of risking human lives. Another cause of dissatisfaction in this case was the alleged unequal distribution of vaccine among potential patients. In Germany, politicians allegedly were subjected to a vaccine that was supposed to have less negative side effects than the vaccine given to the general public.

In addition to blame, the notion of fairness and social justice causes or amplifies the feeling of dissatisfaction (Brion, 1989). Blame points to the direction of the protest, perceived inequity produces the legitimization for the protest. Inequity was prevalent in the cases of Katrina (towards poor and colored people), Greece (the low income classes are the ones that have to pay for the rich) and partly swine flu (the politicians get a more effective and less dangerous vaccine than the ordinary citizens).

A third variable that has a strong impact on the feeling of dissatisfaction is trust (Löfstedt 2005). The Greek population has very little confidence in the ability of the government to master the crisis. The residents of New Orleans had little trust in many of the emergency relief organizations; most notably FEMA (Federal Emergency Management Agency). The problem with the overreaction by many institutions facing H1N1 was not the waste of money. Rather the institutions were accused to stand under the influence of the pharmaceutical industry, trying to make profit by persuading the governments to buy tons of vaccine.

Blame, perceived injustice and lack of trust seem to be the main drivers for a collective feeling of dissatisfaction. This collective feeling does not express itself directly in social unrest. In order for protests to be effective it is essential that the protesters organize themselves or find an existing organization that picks up the common cause. The protests in Greece were basically organized by the unions and other social associations, the protest in New Orleans was diffused because of the lack of organizations that rallied around the cause and mobilized supporters. Some mobilization occurred but it was not strong enough to gain more momentum. Only months after the disaster did civil liberty organizations mobilize the public against reconstruction plans that would have (allegedly) benefited the richer parts of town on the expense of poorer parts of the population. The dissatisfaction about the swine flu had very little political impact as none of the existing social groups adopted the case for mobilizing its supporters. For the hypothetical case of cyber attacks there are strong organizations ready to act yet there is still not a case that creates enough outrage (based on blame, perceived injustice and lack of trust) to support a continuous protest movement.

Even if the protest movement is organized and develops a collectively visible strength it may not result in active social unrest which would include illegal actions of resistance or protest. The Greek protest almost collapsed when the first victims were reported. Since the victims were associated with the demonstrators and not (as in 2008) with the police, the legitimacy of the protest movement was seriously compromised and did not recover until today. The escalating protests of the New Orleans people were dwelled when the political system acknowledged mistakes and mismanagement, replaced some major responsible civil servants and started a new compensation scheme. Whatever protest was expressed in the H1N1 case public officials were quite responsive to most of the criticism and gave potentially protesting organization little cause for mobilizing the public. Equally responsive are governments in the case of cyber attack: there is no country in the western world that did not install expert committees to look into this risk.

Given these empirical findings one can delineate a step-by-step escalation process leading finally to social unrest.

- The first phase of the escalation process is characterized by collective feeling of dissatisfaction. Such dissatisfaction is mainly caused by the experience of mismanagement (blame), perceived injustice (unfair treatment) and lack of trust. These three triggers can be amplified by the mass media and the absence of personal agency to influence the triggers.
- The second phase in the escalation process refers to the ability of collective actors to organize the protest and to manage the logistics of an otherwise diffuse protest.
- The third phase in the escalation process is marked by the inability of the public officials to deal with the protest, engage in dialogue with the protesters or use other means (even force) to de-motivate protesters to mobilize further.

The last point deserves some more attention: What can de-escalate the protest movement once it is well organized? The case studies demonstrate a wide variety of de-escalation mechanisms.

- The Greek case: Here in 2010 three people died during a fire caused by usage of Molotov cocktails. Three people suffocated in the fire because the fire department needed 15 min to come to the building. The fire squad was hindered to approach the site by the protesting mass (e.g. with burning barricades). This incident lead to a de-escalation of the protests. Protest organizations as labor unions distanced themselves from the happenings. The main trigger for de-escalation was the withdrawal of legitimacy by outsiders for the protest movement.
- In New Orleans acts of violence such as looting but also a fatal shooting of a rescuer have been reported. In this incidence the blame was less on the looters and the criminals than on the public authorities for failing to secure law and order. However, the broad media attention to looting took away some of the legitimacy of the poor victims image portrayed by many local neighbourhood groups. Yet the main reason for de-escalation was the lack of stringent organization by various victim groups.

The comparison of cases along their most relevant dimensions yields the result shown in Table 3.1.

Table 3.1. Comparison of cases

Characteristics	Cyber risks	H1N1	Financial crisis in Greece	Hurricane Katrina
Potential of harm (fatalities)	At this time none officially registered	17 959	4	approx. 1 300
Monetary losses	In the US, companies pay over USD 600 million for insurance against cyber risks (over USD 50 billion in annual losses, tendency increasing), see http://www.darkreading_com/smb-security/security/management/showArticle.jhtml?articleID=227400093	Up to several USD billion per country (see, e.g., http://uk.reuters.com/article/idUKTRE5AJ00V20091120)	Over USD 2 trillion according to IMF (cf. http://news.bbc.co.u k/2/hi/8632855.stm)	Over USD 110 billion according to http://www.hurrican ekatrinarelief.com/fa qs.html
Trust in risk regulating institutions	Depending on given case (no data available)	Trust in institutions might be endangered (in terms of a consciously provoked over reaction)	Trust in regulating institutions (notably the Greek Government) is low	Trust in risk regulating institutions were low as basic needs were not fulfilled (but no empirical data available)
Communication infrastructure	Might be target of a cyber attack	-	Communications infrastructure, especially use of cellular phones has helped demonstrators to coordinate their protests	Communication infrastructure broke down causing helping organizations and institutions not to deploy their full potential
Involved civic groups	-	-	Several groups among them labour unions	Civic groups that try to influence the recovery plans of the local government
Agenda setting referring to civic groups and the related risk	Depending on given case	No, as the issue of health is involved and no group wants to save money for risking the life of people	Yes, mainly a matter of just distribution	Yes, mainly a matter of evacuation and recovery plans
Socio- demographic impacts	Depending on given case	Mainly referring to age	Mainly referring to age, education and income	Mainly referring to socio-economic status and age
Affected values	Depending on given case	None	Mainly a matter of just distribution	Mainly a matter of justice
Protesting people	not any, so far	not any	Several thousands	Several hundreds

What did we learn?

The cases of unrest in Greece or the case of hurricane Katrina show that unrest is linked to past history of incidents and events that heightened social tensions and were related to the perception of social injustice. So tensions and anger were present before the initiating event that triggered the actions of social unrest. It is therefore important to investigate the case history and the context conditions. In addition one needs to study the social situation at the beginning of the conflict: which social groups are involved in the issue or who is most vulnerable when the event strikes? Social unrest does not represent a binary activity that switches from 0 to 100% but a process in which social problems and tensions escalate gradually. Nevertheless, any gradual increase may lead to sudden changes in quality and severity of the conflict.

Social unrest seems to be likely in cases in which people are extremely dissatisfied with their situation and probably fear for their health, lives or livelihood. Dissatisfaction is normally linked with the feeling of blame. Someone or some institution is being blamed for the negative situation. Dissatisfaction is also highly connected with the question of perceived inequity and justice. The mass media are important amplifiers or attenuators of social dissatisfaction and bring topics into the public discourse (agenda setting). Finally the fate of the protest movements depend on the degree to which unsatisfied groups can organize themselves and translate their anger into collective action and the response of the public officials to this organized protest.

In the next chapters we will try to summarize these steps in a more analytic way by developing an extended analytic framework. Before we outline this model in more detail we will take a closer look to the question how to define social unrest.

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