6 Transnational border surveillance and social sorting systems in the EU: a changing approach to Europe's borders? – Magdalena Christine König

6.1 Introduction[1]

In recent years, the European Union (EU) has widened its competences considerably in the field of transnational surveillance. The main databases for border movements, Schengen Information System (SIS), Visa Information System (VIS), and Eurodac, are planned to merge increasingly to ensure maximum efficiency in surveillance. These databases are keeping track of movement within the EU and across its borders, mainly for the purpose of controlling migration[2]. This process of harmonising migration surveillance systems is controversial. All three databases entail large-scale surveillance of migrants and travellers thereby turning every recorded individual into a potential suspect. As the European Data Protection Supervisor stated, "all travellers are put under surveillance and are considered *a priori* as potential law breakers" (Bunyan, 2008).

David Lyon (2003), the founder of surveillance studies, assesses that transnational surveillance systems classify individuals according to certain criteria that allow for discriminatory treatment. Thereby, social differences are created and stored, which he labels social sorting. Social sorting, in other words, refers to surveillance systems obtaining data for the purpose of classifying people according to specific criteria. Classification occurs according to risk categories such as citizens, migrants or potential criminals. This may lead to establishing or strengthening social differences. Starting

---

[1] This article forms the basis for a more concise paper published in the *Internet Policy Review*. While the concise version focuses on the impact on power relations that big data can have, this contribution elaborates on social sorting as a modern form of surveillance, see M. König, (2016). The borders, they are a-changin'! The emergence of socio-digital borders in the EU. Internet Policy Review, 5(1). DOI: 10.14763/2016.1.403

[2] Migration refers to any movement of people, either across an international border or within a state (IOM, 2015).

out from Lyon's assumption that every form of surveillance entails social sorting, this paper assesses in how far and with what consequences such classification is found in present-day EU surveillance systems. If they display social sorting characteristics to a high degree, this indicates that the traditional function of borders of exclusion and inclusion of migrants is to some extent taken over by the new surveillance systems. The question then arises how this form of social sorting affects the concept of *the border* in the EU. The intended merger of transnational databases will create an increasingly sophisticated information infrastructure that may alter the function of territorial boundaries. If border surveillance is no longer confined to checking documents "on the ground" but is carried out "in the cloud", what does this entail for the concept of the territorial border?

To put it differently, this paper claims that the EU surveillance databases exhibit social sorting, directly affecting the classified individuals. This changes the notion of the European border since the power to divide into in- and outsiders of society is shifted from territorial boundaries towards socio-digital borders that are determined by the emerging digital infrastructure. I argue that, to a certain extent, borders are redrawn along the categories established through social sorting.

This paper starts out from definitions of surveillance provided by different authors to establish the features of modern surveillance. Bendrath (2014) and Jenkins (2012) identify the elements of remote observation, large-scale dataveillance, information sharing and the prediction of events. Lyon (2003) argues that surveillance always classifies the people's collected data and entails some sort of social sorting. Focusing on Northern American surveillance, he does not apply social sorting to the EU context. Brouwer (2008) analyses the European migration surveillance systems but focuses on their legal side. This paper seeks to fill this gap by analysing the EU surveillance systems SIS, VIS and Eurodac and applying the notion of social

sorting to them. It contributes to the field of border studies by analysing the effects of social sorting on the border in Europe. To do so, I firstly conduct a qualitative content analysis of policy documents to assess in how far the EU migration surveillance systems include features of social sorting. Regulations relating to SIS, VIS and Eurodac are examined for references to social sorting. Secondly, I discuss how social sorting leads to a change of the concept of the EU's borders. This discussion sheds light upon what role surveillance systems themselves play in "rebordering" processes (Rumford, 2006, p.157).

This paper firstly gives an overview over the concepts of surveillance and social sorting. It then introduces SIS, VIS and Eurodac and gives concise information on the purpose and the functioning of the systems. Thereafter, I assess the three systems according to the criteria of social sorting identified in section 2. The paper finishes with a discussion of the concepts of territorial and socio-digital borders.

6.2 Theoretical Framework - Surveillance as Social Sorting

Triggered by the revelations about surveillance techniques of secret services, large-scale surveillance has recently become the topic of public debate in Europe, North America and elsewhere (Weidemann, 2014, p.3). Opponents of surveillance argue that the measures target every individual also without any prior suspicion (ibid.). To explain the social problems that surveillance may entail, it is necessary to define the features of modern surveillance. This section aims at introducing social sorting. It operationalises the concept for the purpose of making it applicable to the content analysis. It furthermore introduces the relation of modern surveillance and borders.

Jenkins (2012) identifies three core characteristics of modern surveillance. Firstly, surveillance is not an end in itself but serves specific

purposes (p.162). Secondly, surveillance is one-directional, with the watcher observing a subject that does not have the power to observe the watcher in turn. Thirdly, surveillance is increasingly impersonal and remote. While traditionally being aimed at specific persons, modern surveillance shows a rising tendency of generic watching of the population-at-large (p.163). Bendrath (2014) puts emphasis on the use of surveillance technologies and defines three important elements of them. They all embrace the tasks of observation, documentation and information sharing (p.21). The latter is increasingly important since it enables data to become mobile and less controllable.

Lyon (2007) adds fundamental insights to the notion of surveillance. He spots an increase in routine population surveillance after 9/11 (p.161). Through modern identification technologies such as airport screening, surveillance has become a feature of everyday life (2003, p.13). Additionally, the technological revolution has resulted in an increased reliance of surveillance on searchable databases. Since 9/11, the purpose of collected data has been to predict and prevent threats to security by classifying and assessing the risk of data. Hence, surveillance is increasingly designed to precede the event rather than to be used to assess events in retrospective (p.14). Following these definitions, this paper looks at modern surveillance as being automated, remote, routine, entailing data sharing and being used to prevent threats.

The most fundamental change Lyon perceives in post-9/11 surveillance is that information systems increasingly show patterns of social sorting. Social sorting systems obtain personal and group data to classify people according to specific criteria. To Lyon, modern surveillance always entails a classification of people into risk categories. Data created through digital surveillance needs to be processed, analysed and stored in an efficient way to be suitable for decision-making. Social sorting systems

constantly verify identities, assess the risks stemming from individual data, and assign a degree of salience to them. People's data and, thus, the people themselves, are put into social categories according to criteria set out within the surveillance system. Lyon understands such systems of risk management as a means of creating and reinforcing long-term social differences (Lyon, 2003, pp.22-24).

The phenomenon of social sorting usually gains strength when security arrangements and biometric identification systems are internationally harmonised. The international dimension is important since movements on both sides of the border are monitored which enables a broad scope of border surveillance and increases its efficiency. The introduction of biometric passports represents such a surveillance system that has been harmonised and shows evident patterns of social sorting (Lyon, 2007, pp.162-163). Moreover, the US-Canadian Smart Border programme entails cross-border surveillance and information sharing. This exemplifies the trend of policy-makers towards using interoperable databases to increase border security (p.165).

The classification occurs with the rationale of risk management, i.e. translating the data into risk categories for decision-making. The groups that such systems usually target are, firstly, mobile citizens and travellers, secondly, migrants and asylum seekers and, thirdly, criminals (Lyon, 2007, p.163). Among the most suspicious categories are presumed terrorists and irregular migrants. This distinction and hierarchy of risk categories reflect Foucault's concept of descending individualisation. The groups at the lower end of the social hierarchy are surveilled more than the ones at the upper end (Foucault, 1977, p.193).

The concept of social sorting relies on computer codes central to the systems. Each category and individual is assigned a specific code that becomes more significant the more information is added (Lyon, 2003, p.23).

Codes represent a central feature of social sorting since they are the doors that allow or deny access to areas, processes and experiences. Therefore, they can be said to represent the determining factor in surveillance systems that results in differences in people's lives and opportunities (p.13). Hence, data is not innocent. It makes a difference to the classified individuals and reflects specific ethics and politics (p.27). The example of marketing strategies of US firms, making increasing use of zip codes to classify customers according to their spending patterns, illustrates how social sorting relies on codes. Different neighbourhoods, demarcated through zip codes, are treated differently with respect to special offers and advertisement (p.14). This marketing form exemplifies how codes are key in translating the categories of social sorting systems into the physical world.

Although the initial categories are the result of political decision-making, the classification that surveillance systems produce, give rise to further assessment. The systems subsequently determine who should be target of special treatment, suspicion, inclusion or exclusion (Lyon, 2004, p.20). For the people put in undesirable categories social sorting directly influences the quality of their lives and determines their chances and choices in society (Lyon, 2007, p.162; 2003, p.20). Whether a border surveillance system puts a person in the category of a legitimate traveller or in that of an illegitimate migrant is decisive for one's personal freedom of movement. Such systems thus have a considerable impact on social exclusion and inclusion, and raise concerns about human rights and civil liberties (Lyon, 2007, pp.162-163). Being meant to facilitate decisions on exclusion and inclusion, social sorting systems likewise raise questions about border politics. Dividing into in- and outsiders is traditionally the task of territorial borders. States are becoming increasingly aware of the limits for population control that the place-bound border checkpoints entail. Therefore, social sorting systems are used to create a digital infrastructure that detaches

control and classification from the territorial border. Social sorting systems rely on the existence of territorial borders for the registration of outsiders entering the bordered area. However, simultaneously, they exercise an exclusionary power that goes beyond it. As Lyon (2004) puts it, nowadays, "the experience of being counted as an insider or an outsider can be reproduced anywhere" (p.2).

The classical example of social sorting systems relying on large-scale databases are electronic ID cards. As markers of membership they assign a nationality to each individual. They are intended to classify eligible members of states and to exclude non-citizens (Lyon, 2004, pp.2-3). What is new about these systems is that they rely on modern technologies such as biometrics or large-scale databases. Based on new technologies they have gone through a process of increasing rationalisation and automatisation making surveillance and social sorting more efficient. Social sorting, in sum, enables digital discrimination and profiling, and facilitates migration control (Ball et al., 2012; Bendrath, 2014; Lyon, 2003; Lyon, 2004).

The development of surveillance systems into systems of social sorting is a relatively recent one. The increase in social sorting databases can be explained only partly with an increase in technological knowledge. It is rather an increase in perceived threats and the reinforced wish of policy-makers for more effective population control that have fostered the emergence and rising interconnectedness of social sorting systems (Lyon, 2003, p.20). However, social classification of human life as such is nothing extraordinary or new. All modern social institutions depend on social differentiation, for example to determine who may vote. In fact, human life depends largely on social categorisation. It is necessary to make sense of personal relations and of one's social environment. This process of social differentiation, however, is increasingly rationalised and dehumanised. The systems' most significant features are that they are automated, remotely

operable and extremely versatile, so that they can be routinely used to prevent perceived threats. With modern computers coding the categories, the social power of the gathered and shared information is significantly reinforced (pp.21-22).

To sum up, social sorting relies on large-scale databases, is based on classification and can have dramatic effects. Let us take a closer look at these three elements. Firstly, social sorting tends to grow with the transnational harmonisation of security arrangements, such as border management programmes. These programmes are commonly intended to be interoperable with existing databases to ensure maximum security control. The system relies on computer codes that target either individuals or a group of people. Furthermore, social sorting systems are usually designed to be systems of risk management, assessing the worth and the risk of the entered data. In addition, they rely on biometric data to make identification more concrete and reliable. Secondly, on the basis of the collected data social sorting systems assign people to different risk categories. This is done according to specific criteria that are based on attributes of identification such as nationality and purpose of travel. Thirdly, categorisation has real social effects on the classified people. The established categories allow for discriminatory treatment. They decide on exclusion or inclusion and thereby create long-term social differences or reinforce already existing unequal patterns. These characteristics are summarised in Table 1 and are applied to the EU migration surveillance systems in the analysis that follows. By taking a closer look at the design of the systems, I intend to find out in how far the characteristics of social sorting described above can be found.

Table 1 - Operationalisation: Characteristics of Social Sorting	
Database	- usual occurrence with harmonisation of international security arrangements - increased interoperability - reliance on computer codes: remote and impersonal control - systems of risk management - reliance on biometrics
Classification	- spelled-out risk categories - criteria for categories - criteria are based on specific attributes of identification
Social effects	- categories allow for discriminatory treatment - creation of long-term social differences (inclusion, exclusion) - or: reinforcement of already existing social differences

(Source: Ball et al., 2012; Lyon, 2003; Lyon, 2004; Lyon, 2007)

6.3 Surveilling Migration Transnationally: SIS, VIS and Eurodac

In order to keep pace with increasing migration, the EU has assigned more importance to the role of transnational surveillance systems for controlling border movements (Aas, 2011, p.333). The Treaty of Amsterdam of 1999 established a European area of freedom, security and justice with the border surveillance systems SIS, VIS and Eurodac constituting important elements of it (p.332). The development of these databases is closely linked to the aspirations of building a Europe without internal border controls (Brouwer, 2008, p.2). With decreasing controls at internal borders, a need was seen to compensate for this loss of control towards third-country nationals entering the Schengen area. The large-scale databases SIS, VIS and Eurodac are meant to combine the policy objectives with regard to immigration and border control. Each database has its own individual functions, however, they are closely linked to one another (ibid.). In 2004, the Council of the EU proposed to the Commission the preparation of possibilities to enhance the

interoperability of SIS, VIS and Eurodac with the purpose of fighting terrorism more effectively. Since 2012, all three systems have been operated by the EU agency for large-scale IT systems eu-LISA (European Commission, 2015). The terrorist attacks of 2001 in the USA and of 2004 and 2005 in Madrid and London have triggered an increased linkage of migration and security issues in Europe. Since then, the policy emphasis on border controls in the field of migration policy has been reinforced (Brouwer, 2008, p.31).

The Schengen Information System (SIS) became operational in 1995. Paradoxically, although the Schengen agreements imply freedom of movement for many EU citizens, border controls were simultaneously increased for third-country nationals. Brouwer (2008) therefore assesses that SIS facilitates "keeping the unwanted out" (p.1). SIS is a data-based registration and surveillance system that is made up of one central database in Strasbourg and several national databases that feed information into the central one (eu-LISA, 2014, p.8). Due to the limited capacities of SIS, a second-generation system, called SIS II, was launched in 2013 to create a technically better system for an enlarged EU. SIS II[3] has added new functions to the system and has become by far the largest database for public security in the EU (ibid.). Since its launch, most data in SIS concerns third-country nationals being refused entry to the EU.

Being designed similarly, the Visa Information System (VIS) constitutes a crucial complementary counterpart to SIS. VIS, introduced in 2008 to support the already established surveillance systems, has a central database that shares its headquarters with SIS and is supported by various national counterparts. This common identification system for visa data registers all persons entering the Schengen area with a visa. It aims at facilitating the identification of persons that have entered the EU legally with

---

[3] In the following, SIS I and SIS II are referred to as SIS.

a visa and have stayed irregularly after the visa's date of expiration (Brouwer, 2008, p.85).

The European dactylographic system (Eurodac) was introduced in 2003 to support the implementation of the Dublin Convention on asylum. Through this convention, individual responsibilities of member states concerning asylum applications were regulated. It determined that the responsibility for dealing with an asylum claim lies with the member state having received the respective application. To prevent asylum shopping, that is the simultaneous application for asylum in several member states, Eurodac was introduced to determine whether the same individual has applied more than once. To this end, Eurodac collects all fingerprints of asylum applicants (Brouwer, 2008, p.77). Once a "hit" has been found, that is the correspondence with a stored data set, the asylum applicant may be returned to the member state where the first asylum claim was issued.

Since the three systems are all managed by the EU agency eu-LISA, they exemplify an emerging trend of interoperability of electronic transnational surveillance systems in the EU (eu-LISA, 2014; Brouwer, 2008, p.73).

6.4 Social Sorting in the EU and its Impact on Borders

6.4.1 Methodology

To answer the question to what extent the EU surveillance systems exhibit features of social sorting, a qualitative content analysis of policy documents is conducted. A series of essential documents and regulations of SIS, VIS and Eurodac are analysed. Since SIS II, VIS and Eurodac were introduced between 2000 and 2013, these years are set as the time frame. The features of social sorting summarised in Table 1 are applied to the databases.   In order to answer the question of the effect of social sorting systems on the

concept of the border in the EU, a conceptual discussion is held thereafter. Building on secondary literature on border studies, the discussion elaborates the concept of socio-digital borders to define the observed phenomenon and thereby adds new insights to the research field.

6.4.2 Policy Document Analysis: Social Sorting in SIS, VIS and Eurodac

In the following, I conduct a policy document analysis of the founding regulations of the three systems applying the criteria set out in Table 1.

6.4.2.1   The Databases

With respect to the nature of the databases, let us first look at the degree of harmonisation of international security arrangements with the databases. SIS, VIS and Eurodac are part of the EU's aspirations of creating an area of freedom, security and justice and, thus, they are not only designed to control migration but also to combat security threats such as terrorism. The founding documents contain many references to security-related topics. In the documents concerning SIS, a lot of emphasis is put on the system's aim to contribute to "maintaining a high level of security within the area of freedom, security and justice" (Council of the EU [Council], 2007, Art.1.2). Furthermore, the documents state that harmonisation of provisions relating to migration, asylum and security is a major objective of SIS (European Parliament & Council of the EU [EP & Council], 2006, Art.24.5; p.5; Council, 2007, Art.62.2). Similarly, VIS is explicitly devised to enhance security within the Schengen area. Despite its purpose of regulating migration, it is stated that "VIS data will substantially contribute to the prevention, detection or investigation of terrorist offences and of other serious criminal offences" (EP & Council, 2008, Art.3.1). Eurodac shows an interesting development in this respect. The regulation of 2000 amply refers to migration and asylum, while the revised regulation of 2013 puts a much

stronger emphasis on terrorism and international crime. It states that "the information contained in Eurodac is necessary for the purposes of the prevention, detection or investigation of terrorist offences" (EP & Council, 2013, p.2). In other words, Eurodac exemplifies how an instrument for migration control can gradually alter its objective and become a security tool.

The objective of interoperability can be found in all databases. The SIS documents mention that it is aimed to be connected to VIS in the near future (EP & Council, 2006, Art.31.3). VIS mentions that a valid ground for a visa refusal is an alert in SIS (2008, Art.12.2(f)). Finally, Eurodac's regulations recommend the consultation of VIS prior to using Eurodac itself (2013, Art.20(1)).

A further characteristic of social sorting systems is the reliance on computer codes linked to central databases which allow surveillance to be implemented remotely. All three systems are based on individual codes assigned to each personal file entered into the systems. Both SIS and VIS assign each individual an alphanumerical code that enables greater precision in the search for identities (Council, 2007, Art.22(b); EP & Council, 2008, Art.5.1(a)). Eurodac assigns to each "alien" a personal reference number (Council, 2000, Art.11.1).

To determine whether the databases represent risk management systems, attention is paid to their purpose. Systems of risk management assign worth and risk to the collected data which enables judgement. The analysis reveals that the cases fulfil this criterion to a high degree. SIS uses the collected data primarily for decision-making on border movements. The system interprets issued alerts "for the purpose of refusing entry or stay" (EP & Council, 2006, p.5). The VIS regulations state that the system shall assist in the identification of expired visas and support decisions on renewal, refusal or shortening of visas (2008, Art. 2). The data collected by VIS is

used to enable decision-making on visa policy. Similarly, Eurodac is called a "valuable tool" for managing offences related to both security and migration (2013, p.3). Eurodac bases decision-making on collected fingerprints that are then made available to security agencies.

Finally, the use of biometric data can be identified in all systems. They make use of biometric data, especially of fingerprints and biometric photos (EP & Council, 2006, p.5; 2008, p.61; 2013, p.2).

In conclusion, all identified criteria of social sorting with respect to databases can be confirmed when analysing the regulations of the concerned systems. Thus, with respect to these technological aspects, SIS, VIS and Eurodac display characteristics of social sorting to a large extent.

6.4.2.2   Classification

In addition to the criteria for the databases, indicators of classification are found in the examined cases. Firstly, I examine whether the systems exhibit risk categories according to which data is sorted. In general, all three databases seem to make a distinction between citizens and non-citizens, a dichotomy typical for social sorting. Examining the SIS documents, a clear distinction between third-country nationals and citizens is found. Alerts are only issued on third-country nationals for the purpose of refusing entry or stay. This holds also for third-country nationals that enjoy the right of free movement within the Schengen area (EP & Council, 2006, Art.3(d)). Once citizenship is acquired, all data on the concerned individual is deleted, which implies that "citizen" is not counted as a risk category by the system (Art.30). Furthermore, with respect to SIS' task of enhancing security, data is classified according to the categories "persons wanted for arrest", "missing persons", "persons sought to assist with a judicial procedure" and "persons for discreet or specific checks" (Council, 2007, Chapters V-VIII). Since VIS focuses on the issuance of visas, it does not classify into citizens and non-

citizens but distinguishes between tourists and illegitimate visa holders. It is a spelled-out purpose of VIS to protect travellers (European Commission, 2015). Hence, every case not classified as a tourist or a similar category is considered a category of risk. Eurodac establishes three categories of risk according to differing attributes of "aliens". Being concerned with asylum applications, the system distinguishes between "applicants for international protection", "third-country nationals or stateless persons apprehended in connection with the irregular crossing of an external border" and "third-country nationals or stateless persons found illegally staying in a member state" (EP & Council, 2013, Chapters II-IV). It seems thus that different degrees of risk are assigned to regular and irregular applicants of asylum.

Secondly, the criteria for these categories are spelled out less clearly. Analysing the regulations, it does not become entirely clear according to which criteria individuals are classified. Generally speaking, the systems file individuals only above the age of fourteen. Furthermore, they do not seem to keep record of citizens, which constitutes thus an excluding criterion of classification. SIS bases categorisation on a national alert that has been issued by its counterparts in the member states. The ultimate decision to issue an alert on refusal of entry or stay is based on "individual assessment" (EP & Council, 2006, Art.24.1). The documents leave open what the criteria for this assessment are. VIS differentiates between visa types that are decisive in determining which category data is assigned to (2008, Art.4). Eurodac puts more emphasis on the manner an individual has entered the Schengen area. A difference is made between irregular and regular travel and between refugees, regular aliens and stateless persons (2013, p.3).

The third criterion of classification as social sorting can be confirmed for all three databases. In each of the examined systems, attributes of identification of the individuals and the categories are found. For SIS, these are general characteristics such as sex, origin-related data and place of

birth, biometric data or a comment on whether the person is armed or violent (EP & Council, 2006, Art.20). Similarly, VIS stores data on the individual's origin and physical characteristics, in addition to visa- and travel-related information (2008, Art.9). Eurodac stores a limited number of attributes. The only personal information on the individual are sex, state of origin, the reference number and the biometric data gained through the fingerprints (2013, Art.14). Hence, it seems that for all systems, the biometric data and the country of origin plays a crucial role in determining the categories' attributes since these characteristics are spelled out most clearly.

In conclusion, the examined systems all display strong characteristics of classification into different groups with distinguishable characteristics. Although the categories' characteristics are not formulated precisely enough, it can be stated that SIS, VIS and Eurodac exhibit this vital criterion of social sorting to a large extent.

6.4.2.3   The Social Effects of Classification

The final group of criteria concerning the social effects of classification is difficult to determine, since, not surprisingly, the examined policy documents do not mention the social implications they may have on the categorised individuals. However, the regulations still allow for some statements about these effects.

Firstly, since the identified categories are the result of and form the basis for decision-making, they allow for discriminatory treatment along the lines of the data groups. These decisions concerning every categorised individual can have serious social implications for them. SIS categorises to refuse entry or stay within the Schengen area (EP & Council, 2006, p.5). This implies that the category one is put into has a direct effect on freedom

of mobility within the EU. With SIS being also used as a security instrument, Europol and Interpol can be granted access to the system. Hence, members of a risk category are more likely to be persecuted and suspected for criminal offences than non-surveilled persons. The same holds for Eurodac, whose files may also be object of Europol investigations (2013, Art.21). VIS equally indicates possible social implications. Aiming at the prevention of asylum shopping and the regulation of visa applications, the risk category affects the applicants' prospects of success of being granted a visa. In addition, VIS information is linked to the profiles of the travel groups or family members of every individual (2008, Art.8). Hence, if an alert is issued on one member of this "network", other members are automatically controlled, too. Thus, an alert affects more than only the concerned file.

It can be assumed that such discriminatory treatment with respect to freedom of mobility or freedom from suspicion results in long-term social differences. With respect to social differences being maintained in the long term, the systems provide for permanent and repetitive control of the data file. This is done since in particular VIS is not only concerned with the decision on visas but also on the expiration of lawfully acquired visas. To this end, a constant re-checking of the biometric file is done (Broeders, 2007, p.73). Moreover, data on individuals is kept in SIS and Eurodac for ten years and in VIS for five years from the date of registration onwards. This long time span suggests that the systems indeed exert influence on the concerned individuals for a considerable time. What form this social impact takes on exactly in the individual cases, exceeds the informational value of this analysis and requires further sociological research.

To compensate for the methodological limitation, secondary literature confirms the assumption of a long-term social impact on individuals. Since all systems serve both immigration and criminal law, being reported on can have consequences for one's legal position. A hit in SIS may result in the

refusal of entry but, due to SIS' increasing focus on security, also in detention or deportation (Brouwer, 2008, p.3). With security agencies having access to the databases, registered persons are at greater risk of being affected by law enforcement and suspicion (p.514). VIS is used primarily for repressive purposes (p.2). It is predominantly used to track expired visa holders and thereby prevent irregular settlement. Finally, a hit in Eurodac may result in the deportation of the concerned person to another member state (p.3). To prevent the recognition of their fingerprints by Eurodac, in 2008, seventy-eight migrants who had disfigured their finger tips were imprisoned by the Norwegian police for the time of their recuperation. This case shows how biometric surveillance systems can have a serious impact on people's physical well-being and may result in the deprivation of freedom (Aas, 2011, p.342).

A commonality of all systems is the aim of exclusion of migrants from society. SIS, VIS and Eurodac form a digital infrastructure that seeks to control institutions and networks irregular migrants need for their daily life. Through the increasing necessity of identification and registration, the supply of employment or housing becomes more difficult and irregular supporting networks are delegitimised (Broeders, 2007, pp.74-75). Registration and documentation have become prime tools for the "panopticon Europe" to separate the insiders from the outsiders (p.74). These negative implications happen without closer attention of policy-makers to the basic rights and freedoms of these persons which raises increasing concern among civil rights activists and non-governmental organisations (Brouwer, 2008, p.3).

6.4.3 Conceptual Discussion: Implications for the Concept of the Border in the EU

Assessing in how far SIS, VIS and Eurodac represent systems of social sorting, it becomes apparent that they establish a digital information

infrastructure that goes beyond the boundaries of nation-states. Border surveillance is no longer confined to territorial demarcations. The analysis has shown that the EU's transnational migration surveillance systems play a crucial role in establishing social difference and sameness and that they increasingly take decisions on the in- and outsiders of European societies, a traditional function of territorial border agencies. The question arises how social sorting changes the concept of the border in Europe. What does social sorting entail for a "Europe without frontiers" that has evolved since the Schengen acquis (O'Dowd, 2002, p.14)?

To assess this impact of social sorting systems on borders, firstly, the traditional understanding and function of social and territorial borders in Europe and more generally are defined. Borders as such are inherent to human behaviour. Social borders order life, provide protection and reflect the need for sameness and belonging (O'Dowd, 2002, p.14). They strengthen identity and simultaneously perpetuate notions of difference and othering (Newman, 2006, p.143). Borders as social demarcation depend on how insiders define what characteristics the outsiders should have to be part of the bordered society (Kroneberg, 2014, p.9).

The border as a territorial demarcation is a Western European invention of the 19th century, a manifestation that is paradoxically now being challenged the most in Europe through Schengen (O'Dowd, 2002, p.15; Rumford, 2006, p.164). The traditional function of territorial borders can be defined as the demarcation of power over the territory of a state against that of another state (Kleinschmidt, 2014). They serve to distinguish cultural or political features towards others and enable the assignment of competences and responsibilities. The post-war reconstruction of European states and territorial borders has termed the European understanding of border control involving modern competences such as surveillance or welfare (O'Dowd, 2002, p.15). For instance, the principles of the inclusive welfare

state depend on a territorial demarcation defining who is an insider to the welfare system, contributing and benefiting from it (ibid.). In this sense, borders are instruments of both exclusion and inclusion (p.32).

   With Europe having less internal border control, a security deficit and loss of control over population flows have been perceived by political elites (Zaiotti, 2011, p.2). These concerns led to the introduction of a rebordering process against non-EU citizens, a phenmenon Rumford (2006) labels "securitised rebordering" (p.157). The Schengen area exemplifies this dilemma and sheds light upon how debordering and rebordering processes accompany each other. SIS, restricting third-country nationals' mobility in the EU, was introduced simultaneously with the Schengen acquis which was committed to open borders and free flow of people. Hence, with "soft borders" within the EU, the "hard border" still exists at the boundaries of the nation-states in form of a "Schengen wall" sustained by security controls and surveillance technologies (p.156). However, being meant to protect society from the external enemy, border surveillance systems are increasingly reaching into society itself. The enemy within has become the logic of borders and modern border systems represent these blurring lines of internal and external security threats. Borders are means of distinguishing the safe from the dangerous and have been enabled to do so beyond the territorial boundary.

   This paper claims that the main functions of the territorial border in Europe, that is deciding on exclusion and inclusion and controlling populations, are shifting to a different kind of border that is drawn within society. While the examined systems SIS, VIS and Eurodac draw their data from surveillance at the territorial border and therefore rely on this territoriality, they simultaneously change this border's nature. All three systems represent social sorting systems and aim at categorising people by assigning risk and worth to them. Based on these categories, decisions are

made concerning for instance freedom of mobility or refusal of entry into the Schengen area. Hence, social sorting systems have overtaken the crucial border functions of decision on exclusion or inclusion and population control. If these functions are shifted, it can be argued that a process of rebordering is occurring in Europe with the location of the border being shifted into society itself. With the help of biometrics and digital surveillance technologies, a rebordering process along the lines of the systems' social categories is occurring. It is no longer only the territorial border agency that decides on who is an insider and an outsider but the category individuals are put into and according to which they are treated politically takes this decision. This new kind of border does not stop at the territorial boundaries of states but reaches into society and continues to make a difference there. This is not to say that territorial borders have ceased to matter. They still exist and exert important functions in population control. However, they have become multiplied and extended through social sorting systems to overcome their own limits.

I argue that, in addition to the territorial borders, a new kind of border has emerged which I label "socio-digital border". This term is chosen because it brings together the social purpose of classification and rebordering, and the digital and biometric means by which this is done. The social aspect of the term refers to the lines along which borders are drawn such as the risk category one is put into, one's origin or the purpose of travel. The digital aspect refers to the methods through which social sorting and discriminatory decision-making are facilitated, including biometrics or digital surveillance. It also refers to the non-visibility of the border which is achieved through its digitalisation and which represents a contrast to the visible territorial border.

Other authors have termed this new border differently. Amoore (2006) labels it "biometric border" referring to biometric technology that identifies

mobile bodies and can be understood as a frontier that is produced through the specification of sameness and difference (p.344). With the same rationale, Walters (2002) uses the term "biopolitical border" combining the biometric nature of the border with the political power that is exercised through it (p.571). However, this focus on biometrics is not sufficient to describe the phenomenon observed in this study. Although biometrics are important in the rebordering process, it is not the biometric data that determines the border but the criteria that the system has set out to classify. Furthermore, the term biometric neglects the digital and coded character of the surveillance systems. Additionally, it is important to pay equal attention to the social component of the new border that determines the content of the dividing border line. After all, the digital biometric border merely enables the reproduction of social borders. Technology supports the rebordering process but the new border is based on social factors. Therefore, the term "socio-digital border" as a designation of the observed phenomenon is useful as it combines the social aspects of bordering with the digital and invisible nature of the border.

Modern surveillance systems such as SIS, VIS and Eurodac have assumed significant bordering functions. Physical borders are no longer the only place where being counted as an in- or outsider becomes possible. Technology has enabled such borders to be possibly reproduced everywhere. The coding of identities and the thereby possible permanent manifestation of legitimacy results in such an omni-present border (Lyon, 2004, p.2). Wherever biometrically registered and checked bodies can be found, the border is carried into society. As Amoore (2006) puts it, "the border becomes a condition of being that is always in the act of becoming, it is never entirely crossed, but appears instead as a constant demand for proof of status and legitimacy" (p.348). The establishment and possibility of a

verifiable identity at the socio-digital border has, hence, become a condition of being.

6.5 Conclusion

This study of document analysis and conceptual discussion shows that social sorting in EU border and migration surveillance systems impacts the concept of the border in Europe. The study shows how the surveillance systems SIS, VIS and Eurodac exhibit features of social sorting according to the Lyon's definition. The systems do not only provide for categories of citizens, travellers, migrants or terrorists but also set out specific criteria according to which individuals are classified. Moreover, they rely on modern technologies such as biometrics or large-scale databases and therefore have a considerable scope and efficiency. The policy document analysis hence shows that social sorting is found to a large extent in the examined systems.

The analysis suggests that the systems have taken over functions of population control, a task that is traditionally assigned to territorial borders. The conceptual discussion assesses that, therefore, social sorting systems change the notion of the border and shift some crucial functions to new borders that have emerged along the lines of the categories of social sorting systems. Along with population control, these functions include the power of the decision on exclusion and inclusion. The categorisation of people into risk categories divides into in- and outsiders of society. Thereby, social sorting through border surveillance systems reaches out into society itself and continues to make a difference there. Interestingly, social sorting makes use of the concept of the territorial border but simultaneously changes the nature of the border. I establish the term "socio-digital borders" to conceptualise this new form of invisible borders along the lines of the social categories.

The paper adds to the research fields of surveillance and border studies and contributes to the academic literature by combining the two areas. Additionally, it contributes to the understanding of the effects of surveillance on everyday life. However, the methodology of this paper is not of sociological nature which represents a limitation. The methods of document analysis and conceptual analysis cannot explain in-depth social implications of social sorting on individual lives. To fill this gap, sociological research such as ethnography should be conducted to complement this study. By combining insight from such methods with the findings of this study, light would be shed upon the controversial nature of surveillance methods. Surveillance is especially controversial when being aimed at exclusion of non-citizens. If surveillance has come to serve the goal of "keeping the unwanted out", with the unwanted being the most vulnerable parts of society, more public debate should be conducted about the social and ethical implications of surveillance and border management.