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Alfred Reckendrees (Copenhagen Business School) are.mpp@cbs.dk

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Abstract

Today the European welfare states are strongly challenged and it is heavily debated how much social security a society should provide and how much private insurance is possible. This article goes back to the origins of the German welfare state. In the 1830s, industrialists from the district of Aachen (Prussian Rhineprovince) suggested to implement collective labour rules regulating working hours and wages. In the 1860s – 20 years before Bismarck – they proposed a mandatory pension system with equal contributions of employers and employees; they suggested labour conflict resolution by joint arbitration panels of employers and labour representatives. The proposals did not gain support from the Prussian ministries arguing collective agreements would violate freedom of contracting.

Entrepreneurs demanding social welfare and the Prussian state defending economic liberalism – this challenges the perception of the Bismarckian welfare state as a means to reconcile labour with the German state. Yet, in the early 19th century the district of Aachen was the most advanced economic region in Prussia in regard with industrial employment and modern industrial organisation. Producing quality goods for the world markets, the industrialists aimed at stabilizing the social environment and reconciling labour with the capitalist society. Their motivation, however, was not based on philanthropy; it was guided by economic aims and collective self-interest. Analysing ‘social policy’ as a capitalist aim, the paper puts the German welfare state in a new perspective. By doing this it also wants to contribute to the discussion on the future of the modern welfare states, because if the argument presented here holds it might have implications for the possibility of privately solving social problems.

Why did early industrial capitalists suggest minimum wages and social insurance?

1. Introduction. Discussion of literature

In 1850 the city of Aachen in the west of the Prussian Rhine province was situated in a densely populated industrial region with a majority of the workforce working in relatively large factories and mines (chapter 2). In the early 1830s, labour conflicts and a social upheaval in the city of Aachen suggested local industrialists and the chamber of commerce to propose collective labour agreements (on working hours, labour contracts, etc.). The proposed regulations did not materialize because the Prussian Government did not want to interfere with private contracting. In the 1860s, the same groups of people proposed a pension scheme for old workers with equal contributions from employers, workers, and the city government making factory work more attractive and better accommodate the working class with the capitalist society. The proposals indicate the changing work environment, the development of competitive labour markets, and the social change in this formative period of industrial capitalism. The suggestions indicate that the industrial district of Aachen was ahead of the national developments; some 20 years before the German State and chancellor Bismarck implemented social security for factory workers in the 1880s, similar ideas had not only been discussed by industrial capitalists, they even demanded institutions mitigating negative impacts of industrialization and societal change. Their main concern was to legitimize the capitalist order.¹

This observation is somehow at odds with the conventional view of the emergence of the German 'Welfare State'.² The literature argues that both the Prussian health funds ('Unterstützungskassen') of the 1850s and the compulsory insurance of the 1880s are legally and chronologically connected to the decline of the guilds.³ Despite research on welfare discussions in the 1840s and 1850s⁴ it is generally assumed that the social insurance legislation of the 1880s (*compulsory* insurance for industrial workers against sick-

¹ For a first tentative discussion see Reckendrees, 2010: 72-80.

² Hennock, 2007; Ritter, 1983: 17-130 provide two relevant overviews.

³ Hennock, 2007: 331; Kuhnle and Sander, 2010: 67.

⁴ See Reulecke, 1983 on the Centralverein für das Wohl der arbeitenden Klassen.

ness, 1883; accidents, 1884; old age and invalidity, 1889) had been top down decisions; the “Bismarckian” system is interpreted as an *‘attempt to build worker loyalty towards the imperial regime after having repressed the freedom of organization, assembly, and expression of a growing, radical socialist movement and party’* and a *‘contribution to state and nation-building’*⁵. Bismarck’s political strategy is described aiming at reconciling the labour movement with the newly established German State on the one hand, and a ‘carrots and sticks’ policy against the socialist movement on the other hand.⁶ The interpretation is mainly based on the royal message of 17 November 1881, the main sections of which were edited by Bismarck; it argued that *‘the redress of social problems is not simply to be sought by repressing the Social Democratic excess, but equally by positively promoting worker’s welfare’*.⁷

With this paper I want to contribute to the discussion about the origins of social welfare in Germany. I am not rejecting the major interpretation as there is good reason to connect the German welfare state to Bismarck’s policy, because the implementation of compulsory insurance required decisions by the Government, the King and the Parliament. Yet, this view seems too simplistic for two reasons: (1) Recent archival research presented in an eight volume collection illustrates that, before 1881, there was no ‘master plan’; social security policy emerged without a clear strategy – but it followed specific aims. Going back to the early 1860s the documentation illustrates the changing approaches of Bismarck, the Prussian Ministries, and political interest groups.⁸ (2) Own research on the development of early capitalism in the first decades of the 19th century indicates that industrialists well aware of existing and potential social conflict discussed engaged the prospects of the emerging capitalist society. Based on economic self-interest, rather than on philanthropic ideals, they developed ideas of how to socially integrate society. And they thus contributed to the slow process of institutional change. Of course, the industrialists of Aachen did not have the political power to implement new institutions; they did, however, propose the implementation of factory rules with minimum standards (1830s), old-age insurance and an arbitration panel for work conflicts

⁵ Kuhnle and Sander, 2010: 65.

⁶ Tenfelde, 2001.

⁷ Tennstedt, 1981, the quote follows the citation in Ritter, 1983: 33.

⁸ See the edition by Henning and Tennstedt, 1990-2006.

(1860s). The proposed argument is not that the ideas have already been developed before Bismarck; it is rather that existing tensions within the emerging capitalist society in the industrial provinces of Prussia induced the demand for social welfare and security. In the perspective of the elites, the stability of society was dependent on social integration of the labour class. While the argument fits well to the idea that Bismarck wanted to conciliate labour with the state, it takes a different angle.

The argumentation combines not yet elaborated theories of social conflict to explain the welfare state and theories of institutional change and collective action.

It follows a brief description of the regional economy and its institutional arrangements. The major incident of a revolt in the city of Aachen (1830) and the industrial response to this uproar is analysed in chapter 3. Chapter 4 briefly presents a contradicting view, and in chapter 5 the proposal of an old-age insurance system in the 1860s is interpreted in the context of a changing economic environment.

2. The industrial region of Aachen and its institutional arrangements

In the first half of the 19th century, the region of Aachen (Appendix: maps 1 and 2) was a dynamic industrial district with modern economic institutions and advanced industrial organization. It is a good example for the regional rather than national dimension of European industrialisation.⁹ On the territory of the German states the region of Aachen was pioneering; based on pre-industrial production systems, an industrial district with modern factory production in many sectors developed: Within two decades artisan and putting-out industries, particularly woollen cloth, transformed to modern industries producing in large scale factories operating machines and power engines. In 1830, the large 'clothiers' in Aachen, Burtscheid, Düren, and Eupen operated vertically integrated firms. Power machines drove all kind of machines (scribbling, carding, spinning, napping or raising, shearing, fulling, pressing).¹⁰ Coal mining and iron and steel industrialised rapidly. New industries related to increased industrial demand (machinery or railway wagons) or to raw materials (zinc) emerged in the 1820s and 1830s. At about 1850 also the industries of lead, glass, paper, and needles produced in large scale factories. In 1861, ap-

⁹ Pollard, 1981: 45-219.

¹⁰ Reckendrees, 2006: 19-30.

proximately 2/3 of the districts labour force was working in manufacturing and mining; 50% of them in “large” factories with more than 100 employees (Appendix: tables 1 and 2).¹¹

Within the regions new industries, the first industrial joint-stock companies in Prussia were established; Aachen was home to an important insurance company and bank (*Aachener und Münchener Feuerversicherungs Actiengesellschaft*, see below); and one of the first German railways connected Cologne and Aachen with Liège and Antwerp.¹² Regional industrialists re-invested profits, diversified risks, and cooperated in these new joint-stock companies.¹³ An important feature of the regional production system was knowledge transfer between firms and branches. Nevertheless, firms and industries continued to compete on product markets and on the markets for labour and capital. Thus, the regional economy was shaped by competition together with cooperation and reciprocal interconnections of entrepreneurs, firms, and branches.

The institutional arrangements of the Rhine province were partly based on French law; on the left bank of the river Rhine not the Prussian *Allgemeines Landrecht*, rather the Napoleonic law with its ‘five books’ (code civile; code de procédure civile; code de commerce; code d’instruction criminelle; code penal) constituted the legal norms.¹⁴ With the Revolutionary Wars the region of Aachen had become the *Département de la Roer*. After the French defeat in 1814, when the Rhineland became Prussian the French legal system and property rights supportive to economic development continued to constitute the norms of economic activity (with only few exceptions). The substitution for new Prussian laws was slow; and new Prussian laws did not dramatically influence regional economic development; only few had a certain impact and they were inspired by French ideas.¹⁵ The Prussian integration of the Rhineland had, of course, economically relevant aspects

¹¹ Reckendrees, 2010: 63; data from 1861.

¹² According to the original plan the railway should pass by Aachen some 15km in the North but due to the strong industry and the effective lobbying of the Chamber of Commerce Aachen succeeded to attract the railway to the city.

¹³ Reckendrees, 2012b.

¹⁴ On the legal institutions in the Rhine province and the continuation of French law in the western part of Prussia see: Conrad, 1969; Faber, 1970; Fehrenbach, 1974; Schubert, 1977; Bernert, 1982; Strauch, 1982.

¹⁵ On the impact of the 1843 law on joint stock companies see Reckendrees, 2012b.

(e.g. the single Prussian currency and the Prussian tariff union); they are however not relevant for the purpose of this article. Economic history surprisingly has not yet systematically used the existence of two legal systems within the Prussian state for generating or testing hypotheses on the economic impact of legal systems.¹⁶

Other institutions of French origin have been equally important for the regional pattern of economic development, especially self-regulating collaborative institutions¹⁷ like the *Chamber of Commerce* of Aachen (1804), *Commercial Court* (1805), and *Trade Court* (1808). The *Chamber of Commerce* had administrative functions in the Prussian state (providing information on regional industry, trade, and commerce to the Prussian ministries – and ministerial information to the local industry); it is, however, important that the chamber consisted of elected industrialists.¹⁸ The limited archival material indicates that the chamber fulfilled a double function in that it complied with its administrative tasks and also acted as the political representation of industrial interests towards the local *Royal Government of Aachen* and the ministries in Berlin; respective activities are for example documented in regard to the Rhenish railway or to tariff questions.¹⁹ The *Commercial Court* ('Handelsgericht', existing until 1879)²⁰ and the *Trade Court* ('Conseils de prud'hommes', 'Gewerbegericht')²¹ were elected by representatives of commerce, trade and industry. The *Commercial Court* smoothed or decided on conflicts between firms and between merchants, the *Trade Court* decided on labour related conflicts. Both were relatively flexible instruments within the only slowly changing civil law system. The *Commercial Court* and the *Chamber of Commerce* explicitly highlighted this quality in letters to the *Royal Government of Aachen*:

¹⁶ For an overview of the discussion, see Mahoney, 2001; Glaeser and Shleifer, 2002; La Porta et al., 2007. First steps in Acemoglu et al., 2011, Acemoglu and Robinson, 2012.

¹⁷ Reckendrees, 2010.

¹⁸ 'Chambre consultatives de manufacture, fabriques, arts et métiers', see: Thomes, 2004: 20-33, Zeyss, 1907.

¹⁹ Reckendrees, 2010: 56-58.

²⁰ Zeyss, 1907: 1-18; Bernert, 1982: 126-128, 144.

²¹ Bernert, 1982 (after 1846 'Königliches Gewerbegericht'); there are differences between the Trade Court in Aachen and the Factory Courts established in the 1840s (Bernert, 1982, 147), which fulfilled similar functions: Willoweit, 1982; Schöttler, 1985; Mieck, 1997.

'In a region so full of commerce and factories [...] the normal courts are not sufficiently prepared to arbitrate the thousands of conflicts of merchants as in many cases there is no written law on the details, or to decide according to the civil law.' Economic development was always ahead of the legal development and the regional economy would need a legal system *'as simple as merchant contracts and as effective and quick as permanently active speculators are.'*²²

In the early 19th century, judicial practice in trade and commerce was thus partly based on case decisions, which gives in a certain way support to the legal-origins hypothesis in the economics of law literature claiming that common law systems were more supportive to economic change and growth than civil law systems. Yet, it does also challenge the persistent view that civil law systems, like the French and the Prussian, were inflexible; a much deeper analysis of practices seems to be necessary.²³

The briefly presented institutions shaped an environment that allowed for the articulation of diverging interests; they could perhaps not always be mitigated but they were at least negotiated. Such constellations are supposed to contribute to the emergence of trust-based relationships and more stable institutional environments.²⁴ They were supported by exclusive bourgeois societies like the *Club Aachener Casino* (founded in 1805) where industrialists, merchants, members of the local administration, and their families met. It was not only a social meeting point for arranged marriages, but also a forum of information exchange (the club had for example an own library with national and international newspapers).²⁵

Despite of 'modern' institutions the relationship between capital and labour did not modernize accordingly. In the first decades of the 19th century the employers had been in a superior position due to liberal labour contracting, prohibition of coalitions, bourgeois class justice, and an oversupply of labour. Incidents of workers destroying new machin-

²² States Archives Düsseldorf (HSAD) Reg. Aachen 1606: Letter of the local judges to President von Reiman, Aachen, 19.4.1816. The Chamber of Commerce supported the judges, letter 18.5.1816, *ibid.*

²³ Reckendrees, 2010; Mahoney, 2001; Glaeser and Shleifer, 2002; La Porta et al., 2007.

²⁴ On the importance of networks for trust in institutions see e.g.: Granovetter, 1985.

²⁵ Arens and Janssen, 1937 u. Sobania, 1991. More generally see the literature on business ethics and the values of the bourgeoisie in the 18th and 19th century, e.g. McCloskey, 2006.

ery such as the Luddite revolts in England were few (in Eupen 1820),²⁶ yet in the 1830s industrial relations started to change. The employers' strategic position was challenged by growing poverty, unemployment, and frustration of impoverished artisans, especially in the industrial cities of Aachen and Eupen. Their respective activities first aimed at factory regulations, then arbitration of labour conflicts, and finally mandatory pension schemes.

3. The revolt of 1830 and the reaction of employers and the bourgeois society

In August 1830, a local conflict between the owner of a cloth factory and some of his employees escalated into a revolt in the city of Aachen in which about 4.000 people participated. The workers accused the employer of high-handedly wage shortages and the employer, who argued the workers hadn't worked properly, expelled the protestors from the factory. A small group of people now standing and shouting in the courtyard attracted a growing audience, especially of very young and unemployed people. When two policemen were called to dissolve the demonstration the problems increased because the crowd repelled the policemen. Encouraged by an experience of 'power' – and perhaps also by the news of the Belgish revolution – the increasing group moved to other places in the city. The object of desire was a capitalist symbol: the house of the wealthiest inhabitant of Aachen, James Cockerill, owner of coal mines and capitalist 'rentier', who from the workers perspective did not work but rather went to horse races and was nevertheless incredibly rich.²⁷ Cockerill's house was plundered, the wine cellar emptied, valuable furniture and paintings destroyed, the piano was thrown out of the window. The euphoric crowd now went to the local prison, banished the guards and liberated the inmates. Yet, in the meantime the city elites had formed an armed brigade. Threading to shoot people it finally aborted the revolt, which had already petered out slowly; many were back home or celebrating in the local pubs.

²⁶ Spehr, 2000; Henkel and Taubert, 1979; Minke, 1986; Hermanns, 1982.

²⁷ His brother, John Cockerill, had established the largest European iron and steel works and rolling mills in Seraing; Jaquemin, 1878, Mahaim, 1905, Lotz, 1920; Hodges, 1960, Fremdling, 1981, Pasleau, 1993.

In the following year, 72 people were sentenced to jail with mostly lifelong penalty. A detailed report of the event and the trial would make an interesting story on its own, yet not the event rather the industrialists' reactions are further discussed.²⁸

Regulation of labour contracts

Within only a few weeks after the incident, the *Chamber of Commerce* and the *Trade Court* discussed the situation and solutions that should help avoiding or at least containing potential labour conflicts; and they presented their suggestions to the Royal Government in Aachen. Surprisingly, they did not conclude on more suppression or on stronger police forces. Instead already in September 1830, the *Trade Court* proposed factory regulation, which received support by local industrialists and the *Royal Government of Aachen*.²⁹ Based on its experience with labour conflicts, the *Trade Court* regarded many of the workers' complaints as justified: Workers had been employed too irregularly; wages had been too low and the truck system had too often been used. It would thus be necessary to find 'instruments' or rules helping to reduce potential conflicts and safeguarding a fair treatment of the workers. The precarious situation would demand social concessions and labour rights precisely defined. Presently '*the factory worker is not able to feed his family, which raises a spirit of discontentment that should be carefully avoided*'.³⁰ The *Chamber of Commerce* supported this interpretation and demanded a legal instruction for mandatory factory rules. In modern terms, the *Chamber* suggested solving the free-rider problem by formal institutions. It argued regulation was necessary because proper behaving firms should not be disadvantaged, and it asked the Prussian Ministry of the Interior to decree a compulsory factory regulation for the Rhine province. Each factory owner should be obliged to set up factory rules to be accepted and, if necessary, to be changed by the *Trade Court*.

The minimum requirements of these rules should be (1) the abolishment of wage deductions, (2) the abolishment of payment in commodities, (3) the negotiation and arbitration

²⁸ The riot is described in detail by Althammer, 2002: 177-202; Volkmann, 1973; Düwell, 1983; Bock, 1980; Bock, 1990; Bock, 1994; and in a contemporary description of the following trial in Cologne, Venedey, 1831. The interpretations, however, differ.

²⁹ On the following, with a different interpretation see also Althammer, 2002, 274f.

³⁰ Quoted in HSAD Reg. Aachen 1625: Chamber of Commerce to Royal Government, Aachen 29.9.1830, folio 5.

of labour conflicts at the *Trade Court*, (4) a 14 day's announcement of changes in wages. Violations of these agreements should be severely penalized.³¹

In fact, this meant the introduction of basic *collective labour contracts* instead of day labour (spot-labour markets). To modern (European) people the proposal may not seem to be revolutionary; yet the suggestions of the industrialists of Aachen did not find support in the Prussian Ministries in Berlin. While the *Ministry of the Interior for Commerce and Trade* and the *Royal Government in Aachen* were sympathetic with the proposed regulations, the *Ministry of Justice* that was in charge of all legal and responsible for administrative regulations, did not want to interfere with liberal contracting. For three years the initiative was crunched in inter-ministerial debates and finally the *Minister of Justice* succeeded and rejected the proposal.³² The provided arguments demonstrate how far liberal thought was embraced by the ministry; e.g. in regard to commodity payments the *Ministry of Justice* argued that the factory owner had either employed the worker on the condition of commodity payments or that he had not. In both cases the worker would have a free choice and could either decline or accept the job: '*There is no need for prohibition*'. It did not assume asymmetric power and rejected the argument of the *Chamber of Commerce* the factory owner could put pressure on the worker by announcing dismissal. The *Ministry* responded it was '*impossible to take this weapon [the thread of dismissal] from the factory owner, but his own interest was the most save and natural restriction of its use*'. A factory worker must decide on his own whether a contract was in his interest. A disadvantageous contract should '*induce the worker to cancel the contract as soon as he is able to use his forces in a more beneficial way*'.³³

Two decades later, the Prussian *Gewerbeordnung* (Trade Law) generally prohibited commodity payments. It had taken more than fifteen years of petitions from Rhenish industrialists, supported by the *Royal Government of Aachen*, the *President of the Rhine*

³¹ HSAD Reg. Aachen 1625: Chamber of Commerce to Royal Government, Aachen 29.9.1830, folio 6.

³² Secret Prussian States Archives, Berlin (GStA PK) I. HA Rep. 120 Abt. BB VII 3 Nr. 4 Bd. 1, documents the inter-ministerial debate.

³³ GStA PK I. HA Rep. 120 Abt. BB VII 3 Nr. 4 Bd. 1: Von Brenn to von Schuckmann, 25.1.1833, folio 16-19.

province, and finally the *Rhenish Landtag* (the 'Parliament'), who repeatedly complained about misuses.³⁴

The Aachen *Chamber of Commerce* and the *Royal Government of Aachen* had hoped for the implementation of mandatory factory rules; they were, of course, not pleased with the Prussian Government's rejection. The number of factories and of factory workers had so much increased that potential singular conflict between workers and employers threatened to infect also other companies and to expand to societal level.³⁵ Especially the local policy tried to calm down labour conflicts; in order to be able to do so the *Royal Government of Aachen* had changed the police rules that now e.g. stipulated that the police must be informed before mass dismissals.³⁶ At least one case is documented, in which the police successfully mitigated the conflict. When in September 1836 the machinery factory *Dobbs & Nellesen* sacked 120 of their 300 workers, a group of workers in a nightly attack on the factory wanted to burn it down. However, the police did not only react in terms of protecting public order, it also organized new jobs. Within three days it arranged jobs for almost 50% of the dismissed in neighbouring factories in Aachen and Eschweiler, while Belgian migrant workers were pushed off to Belgium.³⁷

These events indicate a certain collective industrial approach aiming (1) at containing potential labour conflicts, regulating employers' behaviour, and panellizing misbehaviour, and (2) at collective solutions for mass dismissals (or mass unemployment). The industrialists reflected the need of industrial relations corresponding to modern industrial production. Their (articulated) aim was not philanthropic,³⁸ it was rather creating those social institutions they thought the industrial mode of production required. Some-

³⁴ Anton, 1891; Wischermann and Nieberding, 2004: 144-145; Wischermann does not consider the specifics legal situation in the west of the Rhineland.

³⁵ The average size of a cloth factory in 1850 was about 300 workers; statistics are not fully reliable and partly contradicting; comprehensive data are available for 1849: Reckendrees, 2006: 33; HSAD BR 2116-48: Table on the productive establishments and factories of all kind in the district of Aachen for 1849, folio 319pp.

³⁶ HSAD Reg. Aachen 1625: District President to the local government, Aachen, 12.10.1836, folio 35.

³⁷ HSAD Reg. Aachen 1625: Summary of the events by police director Lüdemann, 19.9.1836, folio 36. See also with a conflicting interpretation, Althammer, 2002, 376f.

³⁸ For a more philanthropic association that had also strong ideas about a good and just society see the 'Centralverein für das Wohl der arbeitenden Klassen' founded in 1844 (Central association for the well-being of the labour classes); Reulecke, 1983.

how, this interpretation corresponds to the structure of the Prussian inter-ministerial conflict: the *Minister of the Interior*, very familiar with the advanced industry in the highly developed Rhineland, supported the reform ideas; the *Minister of Justice*, however, was mainly concerned with the agrarian provinces in the east of Prussia.

Programmes to increase savings

Social problems had been present before the revolt in Aachen; a major incident had been the hunger crisis in 1816/17.³⁹ Yet such problems were tried to resolve by charity organisations like 'Kornvereine', distributing bread and rye among the suffering. The challenges of production demanded however new approaches. One example is the establishment of a savings bank some years after the revolt in Aachen and its specific programme aiming at the working class.

In 1825, the fire insurance *Aachener Feuerversicherungs-Gesellschaft* (Fire-Insurance, Inc.) was incorporated. More than 90% of the initial shareholders came from the region.⁴⁰ In order to be incorporated by the Prussian authorities as a joint stock company, 50% of insurance's net-income (after reserves had been accumulated) had to be spent on public purposes. The fire insurance in Aachen explicitly aimed at the working classes. It financed among others the worker's cultural education and it established a kindergarten for female factory workers.⁴¹ The main purpose, however, was a savings bank: *Aachener Verein zur Beförderung der Arbeitsamkeit* ('Society for the encouragement of industriousness') established four years after the revolt in 1834.⁴²

The savings bank was not only a financial institution but also an instrument to integrate the working class into the capitalist system, which from the perspective of farsighted capitalists depended on social systems safeguarding the worker from the risks of wage labour. The savings bank's provisional committee wrote in 1833 that most industrial workers would not have other means of income than wage labour; they would not have

³⁹ See Bass, 1991; Bass, 1994; Abel, 1974.

⁴⁰ HSAD BA 16058: List of shareholders, folio 42ff.; on the early years of the insurance see: without author, 1925; Seyffart, 1827; Masius, 1846: 116-124; Hansemann, 1834; Berndt, 1884; *Aachener Verein zur Beförderung der Arbeitsamkeit*, 1909.

⁴¹ For more details and literature see Reckendrees, 2012b; Reckendrees, 2010: 75-77; statutes in GStA PK I. HA Rep. 120 D XXII 9, vol. 4.

⁴² On the history of the bank see Pohl, 1999; Thomes, 1999.

a small garden or subsistence agriculture. Savings should allow for overcoming individual crisis like unemployment or illness. Thus, the savings bank provided the '*labouring population*' financial precaution against (un-)expected risks by offering high interest rates. Savings accounts were subsidized by the funds from the net-profits of the insurance and interest rates were thus high and attractive to those who had almost no means of saving. Yet, the bank made high interest rates dependent on well behaviour; it explicitly demanded '*industriousness, order, and well conduct*'.⁴³ Continuous saving over three years and accumulating 20 Prussian Thaler (corresponding to an average labour income of 50 days) should give three Thaler premium. With its ideas, the bank was extraordinary successful. It advanced to the largest Prussian savings bank at the time with 11,500 savings accounts in 1849. 30% of the savers had 50 Thaler and more on their accounts (corresponding to an average labour income of three months); the number of accounts, the participation of working class people, and the average amount savings on the accounts were far above Prussian average.⁴⁴

The bank, on the one hand, was aiming at social security for industrial workers; a savings account should provide at least few means to cope with illness or unemployment. The previous means of the agrarian society (agricultural side income, fruits and vegetables from the garden) were not available to factory workers. On the other hand, the bank aimed a socially disciplining and educating the '*labouring population*'. For this purpose the fire insurance's shareholders contributed a substantial amount of the insurance's income. The bank followed the traditional principle of charity and, at the same time, it encouraged individual precautions against temporary urgencies like inability to work or unemployment. The establishment of the savings bank and the means that it used reflect the dramatic change of '*work*' coming with concentrated industrial production no longer allowing for subsistence agriculture. It also indicates that farsighted industrialists were aware of the need of '*insurance*' against the risks of wage labour and of moderating the existential problems of unemployment and illness.

⁴³ HSAD RA 16058: Executive committee of the Aachener Feuerversicherungs-Gesellschaft as a provisional committee of the Verein zur Beförderung der Arbeitsamkeit (Pastor, Hanseemann, Seyffart), 25.10.1833.

⁴⁴ Statistisches Bureau zu Berlin, 1851ff. (data 1849), vol. IV 1853, 486ff. Average savings were approx. 40% higher than in other Prussian savings banks (1861: 94, 98, 103).

Early health 'insurance'

An elementary risk of industrial labour was labour accidents and illness. When the factory system expanded, the traditional system of poor relief was not supplemented by new systems of social security. Guild-based institutions such as mutual relief funds offered 'insurance' for artisans or travelling journeymen and they continued to exist; some coal mines and some factories had established mutual health funds on factory level ('Fabrikunterstützungskassen').⁴⁵ But these instruments were not yet comprehensive. In the 1830s and 1850s health insurance became mandatory, first in the region's coal mines and then in the metal industries. In this case, state authorities were the driving force.

Before the 1830s, workforce had been easily available: Coal miners mainly consisted of small farmers working in the mines in fall and winter after harvest was brought in; additional labourers came from adjunct regions.⁴⁶ The district's iron and steel industry was still small; the zinc industry did not yet exist; and the early implementation of new machinery in the cloth industry had set free huge parts of the workforce. There was thus no labour shortage until the 1830s. Population increase, migration from the rural hinterland, and temporary cross-border migration from Limburg or Belgium provided sufficient supply.

With increasing industrial production, from the 1830s onwards and more dramatically in the 1850s, labour market conditions changed dramatically. Factory workers were not covered by traditional health institutions; and 'insurance' became a regular means to attract labour. The case of coal mining is illustrative: There were two neighbouring mining districts in the region of Aachen, the *Inde* and the *Wurm* revier. Since the turn of the century, a mutual miners' health fund ('Knappschaft') existed in the *Inde* revier.⁴⁷ In order to compete for workforce, the mines in the *Wurm* revier had to provide 'insurance', too. Yet the small number of workers of a single mine did not allow for an insurance

⁴⁵ For the 1820s, relief funds are mentioned for the cloth factory of Nellesen (Venedey, 1831, 54f., 119) and for a needle factory (Lingens, 1922, 74). A further relief fund is mentioned for the machinery factory Dobbs & Nellesen, HSAD RA 1605: Zusammenfassung der Ereignisse durch Polizei-Direktor Lüdemann, 19.6.1836, 35; Schainberg, 2004/1997, 293.

⁴⁶ Reckendrees, 2012a.

⁴⁷ Under the Prussian mining law 'Knappschaften' had been mandatory, but the mines on *Inde* and *Wurm* operated under French law (Reckendrees, 2013, forthcoming; Simons, 1890).

scheme and it was difficult for the employers to agree on a common system. Their attitude only changed after a serious mining disaster in 1834 with 63 miners killed. Now, the mining authorities were able to conclude an agreement with all mines on providing 'insurance' including medical treatment, help to injured miners not able to work, and basic pensions to widows and orphans of miners killed in accidents.⁴⁸ In reaction to this and to increased competition for labour due to new heavy industrial production sites on top of the coal fields (iron and steel, zinc industry) and due to the Rhenish railway offering new jobs, the *Inde* mines started to provide also housing for some of its workers.⁴⁹

Basic health insurance on the factory level ('Unterstützungskassen') was extended by the authorities in the 1850s to other large industries, especially iron and steel and metals.⁵⁰ The Aachen *Chamber of Commerce*, however, opposed to compulsory health insurance on the factory level, as well as it opposed to the abolition of child labour implemented in Prussia in 1839.

4. Conflicting views

In her excellent dissertation 'Authority, Charity, Protest' Beate Althammer compares the two textile cities of Aachen and Barcelona in the 19th century, she argues that the elites' approach to charity (and social policy) did not substantially change between 1830 and 1870. From her perspective, the *Chamber of Commerce's* rejection of compulsory health insurance on the factory level and the abolition of child labour, as well as the practices of factory owners and the city government did not show a new impetus regarding social policy.⁵¹

The argument presented here is different. The industrialists did not share a common view on social security; and their changing attitude does not so much show up in practices rather in discourse and in proposals for new regulation. Compulsory social security schemes were dependent on the state implementing new formal institutions; if not, the problem of free-riders that was explicitly addressed already in 1830 was to create too

⁴⁸ Reckendrees, 2010: 71-72.

⁴⁹ Reckendrees, 2012a: 57, 92, 128, 138-42, 152; Reckendrees, 2010: 79.

⁵⁰ Hennock, 2007; Wischermann and Nieberding, 2004: 100; Puppke, 1966.

⁵¹ Althammer, 2002: 432f.

many problems. – In general, the industrialists' approach changed after the economic crisis of 1857. With increased production and new factories competition for labour dramatically increased; and the ideas of the 1830s were reanimated. The main focus was now on mandatory pension schemes. They did not become more charitable, rather more socially inclusive. The respective suggestions of the *Chamber of Commerce*, the collective industrial voice, were motivated by anticipated social conflict and by the aim of conciliating labour with the capitalist society. Its proposals regarded (1) an arbitration panel for the resolution of labour conflicts with equal representation of employers and workers ('*paritätische Schiedskommissionen*'), and (2) a compulsory worker's pension scheme ('*paritätische Arbeiter-Rentencasse*') with equal contributions from employers and workers. Furthermore, the *Chamber* now explicitly welcomed compulsory health insurance on the factory level.⁵²

There seem to be three major reasons for the new proposals: Shortages on the labour market; the expected abolition of the prohibition labour coalitions and strikes⁵³; and the increasing need to tackle the ever growing social problems. Like in the 1830s, the representation of industrialists from the region of Aachen proposed new social institutions and regulation that would improve the integration of workers into the industrial capitalist society, while the Prussian State saw only limited need for action. – It needs to be mentioned that in 1863 Bismarck asked the local Royal Governments about their opinion about a pension scheme for workers based on private insurance. Most of them rejected, and also Bismarck withdrew his ideas until the early 1880s.⁵⁴

⁵² Handelskammer für Aachen und Burtscheid, 1853ff., especially the reports of the 1860s. Althammer, 2002: 436 mentions, but does not interpret the changing approach.

⁵³ They had been prohibited in the French code de penal, confirmed by the Prussian commercial law (1845; §§ 181, 182). The discussion about the prohibition started in 1861 when Saxony allowed labour coalitions, in the North-West German Union they were allowed from 1869 onwards, in the Kaiserreich from 1872.

⁵⁴ xxx

5. A compulsory pension scheme and an arbitration panel for labour conflicts

*The pension scheme*⁵⁵

In the 1860s the Aachen *Chamber of Commerce* several times proposed the implementation of a workers' pension scheme in order to secure the '*livelihood of the worker in his incapacitated age*'. The *Chamber* explained its proposal with unequal social chances: there was a '*disparity between the factory owner who –based on his activity– is looking forward to a carefree future, and the worker enjoying a very restricted autonomy only in years of full labour capability, while his fate was unprotected in his incapacitated age*', because the worker would not voluntarily save during his best years. This problem was regarded so crucial that the *Chamber* demanded a compulsory (capital based) pension scheme to which employers and workers, so the proposal of 1863/64, should equally contribute. In the new proposal of 1865/66 three parties should equally contribute to the scheme: (1) employers '*who extensively profited from labour force*', (2) workers, who would then receive a pension rather than poor relief, and (3) the cities, who indirectly profited from local expenditures of wages and transfer incomes. The state should provide a certain amount of seed capital for the pension scheme.

The *Chamber* gave several reasons for a pension scheme, one of which was the price formation for labour. If '*the price of labour –just like any commodity– only depends on supply and demand or on the business cycle of the factories, the worker would, in case of lack of demand, finally be forced to starve or to live on charity*', legal regulations would thus be necessary. It is interesting that the industrialist argued based on a Ricardian (or Marxian) labour theory of value, however, for the argument presented here it is more relevant that they understood that in a modern industrial economy with wage labour, additional income (e.g. from subsistence agriculture) had become less and less important. Wages must now allow for a lifelong reproduction of labour force and also for a basic old-age 'income'. Wanting to guarantee that labour income was used for this purpose, they wished to collect and save the respective contributions within a legally binding framework.

⁵⁵ All quotes from: Königliches Statistisches Bureau, 1861ff.; 1864: 25, and 1866: 30ff. The source collection by Henning and Tennstedt, 1990-2006 provides some printed sources that will be used for a revised version as well as further archival documentation from the Prussian State Archives.

The proposal of a compulsory pension scheme was a reaction to increasing competition for labour that required establishing long-term relationships between employers and workers, the local industrialists also wanted to bound workers to the city they were living in. Up until the late 1850s the city of Aachen had absorbed labour from the surrounding towns and from the hinterland; since then the iron and steel industry, coal mining, the zinc industry and other new industries in the neighbouring towns increased the regional demand for labour and especially the heavy industries paid very competitive wages. Social security seemed thus like a kind of compensation for lower wages and should help binding workers to their factories and towns.⁵⁶ However, the proposal clearly aimed at securing the social order: with this institution, the *Chamber* argued, the worker should 'continue to be a useful, individual property respecting member of society until the end of his life'.

*The arbitration panel for labour conflicts*⁵⁷

The second proposal of the *Chamber of Commerce* followed a similar argumentation. It shows that it had not forgotten its proposals from 1830, and that it had further developed its understanding of industrial relations. The proposal concerned an arbitration panel for labour conflicts with an equal number of workers representatives and factory owners. The arbitration panel should reconcile 'the differences between factory owners and workers with the help of direct and friendly agreement'. 30 years earlier the *Trade Court* dominated by factory owners was regarded the conflict settling authority. Now, the *Chamber* suggested a parity of the two parties.

The arbitration panel should not only deal with labour conflicts, it should also prevent them and develop rules very similar to modern collective labour agreements. It should define the 'minimum level of labour prices' and 'the length of the working day', it should furthermore be empowered to penalize those violating the rules. The *Chamber's* radical proposal (workers coalitions were still illegal) used rhetoric of social partnership. The background of the proposal was the expected abolition of the prohibition of labour coali-

⁵⁶ Industrial production in the Aachen region continuously increased since the 1840s, demand for labour continued to be high and long-time unemployment was probably not known. Reliable data for this assumption is not available, but an extraordinary low level of emigration provides support to this hypothesis; data: 1860.

⁵⁷ See quote no. 54.

tions and strikes, but the wish for stable industrial relations, long term labour contracts, and the integration of labour into capitalist society were of major importance. The worker would *'accept the decisions of the commission, in which he felt equally represented and this will improve [social] moral'*. The rhetoric of social partnership was further motivated by the need to convey the work ethics that quality work required: The worker would have an own interest in the quality of his work and the competitiveness of the factories because this would *'increase the value of labour'* and help providing a secure livelihood. In the future, industry was dependent *'on producing goods of undoubted quality instead of cheap products'*. In the 1860s this required motivated and qualified labour whose cooperation the factory owners wanted to be sure of.

6. Discussion

The proposed regulation of industrial and social relations focused on issues of which factory owners and capitalists thought they would limit potential social conflict and would also be beneficial to their collective competitive situation. They were less interested in, or could not agree on, formal education, training on the job, or other means improving 'human capital'. And, they were not at all philanthropists; the *Chamber of Commerce* continued rejecting mandatory schooling and prohibition of child labour.⁵⁸

The Bismarckian welfare system that emerged in the 1880s aimed at building *'worker loyalty towards the imperial regime after having repressed the freedom of organization, assembly, and expression of a growing, radical socialist movement and party'*.⁵⁹ Bismarck explicitly argued: *'Whoever has a pension to look forward to in his old age is much more concerned and more easily taken care of than the man who has no prospect of any [...] if we [...] safeguard the future of our workers, whose insecurity is the main course of the hatred for the state, we [guarantee] our own future.'*⁶⁰ His political strategy is described aiming at reconciling the labour movement with the newly established German State on the one hand, and a 'carrots and sticks' policy against the socialist movement on the

⁵⁸ Königliches Statistisches Bureau, 1861ff. Vergleichende Übersicht des Jahres 1865, 29.

⁵⁹ Kuhnle and Sander, 2010: 65.

⁶⁰ Bismarck to Moritz Busch, 21.1.1881.

other hand.⁶¹ The rhetoric of Bismarck, who started his career in the *Royal Government of Aachen* in 1836 and who was well aware of the situation in the industrial city and possible also connected to the local industrial elites, and the rhetoric of the *Chamber of Commerce* are remarkably similar if one substitutes the German State for capitalist society. But the individual background is rather a curiosity than an argument.

The proposals of the regional industrialists represented by the *Chamber of Commerce* and the *Trade Court* indicate that the developed industrial society of the mid 19th century in the district of Aachen, and very profane industrialist self-interest originated the ideas of rudimental social security for elderly, something similar to collective labour contracts, and ideas of social partnership in order to allow for the unhindered and continuous reproduction of the capitalist order. Industrialists in Aachen did not –like their counterparts in the UK– restrict relationship to workers to the individual shop floor; they rather looked for collective solutions to the problem. How this can be explained in more detail is still open for debate. It seems as if cooperative institutions (*Chamber of Commerce, Trade Court, and Commercial Court*) helped developing those ideas; they were daily exposed to the challenges of the industrial society and they had to think beyond the individual firm. Regional industrialists furthermore engaged in joint activities in new industries (forming joint stock companies in insurance, coal mining, iron and steel, zinc, railways, and glass industry), which might have contributed to the propensity to collective arrangements.⁶² The major explanation for the industrialists proposals are however to be found in the industrially advanced region with factory owners and workers living close to each other in a densely populated city, who had experienced a dramatic social revolt. Uproar as in 1830 was to be avoided to happen again.

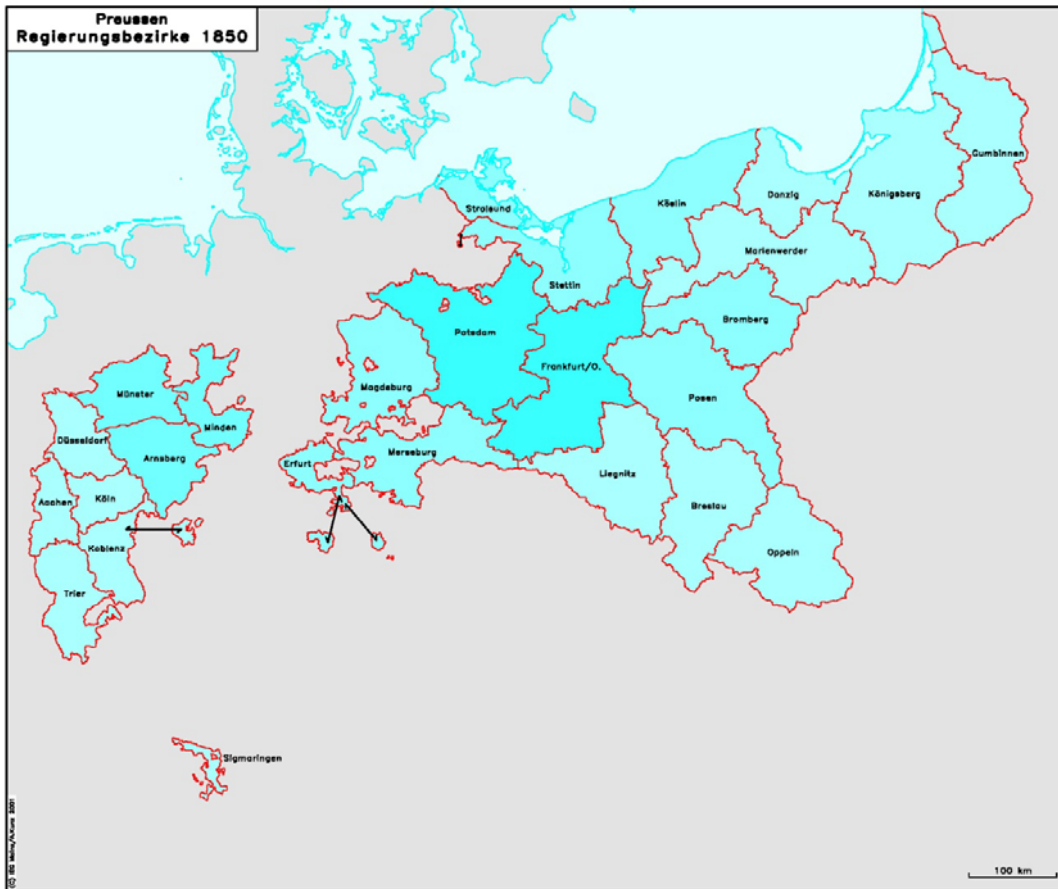
The argument developed relates the emergence of the German welfare state to the societal challenges of industrial capitalism. It does not reject, it rather supplements the traditional view of the German welfare state. The creation of the idea of workers welfare, yet, required industrial capitalism, not the Prussian State. Still, the implementation of the new institutions was impossible without state legislation.

⁶¹ Tenfelde, 2001.

⁶² Reckendrees, 2012b.

Appendix

Map 1: Prussia. Administrative districts 1850



Source: IEG maps

Map 2: Industrial district of Aachen, counties with a majority of industrial employment



Note: The county of Gemünd became later county of Schleiden.

Appendix

Table 1: Sector employment. Administrative district of Aachen, 1861

County	Aachen, city	Aachen, county	Düren	Eupen	Mont- joie	Schleiden	Industrial district	admin. district total
I. Agriculture	1,7%	18,9%	36,8%	18,1%	41,8%	44,1%		32,3%
II. Industry	66,8%	68,9%	52,6%	70,2%	48,4%	49,8%		52,9%
III. Services	31,5%	12,2%	10,6%	11,7%	9,8%	6,1%		14,8%
Industrial workforce	22.893	21.761	13.465	7.470	4.108	8.164	77.861	103.525
Population	59.941	52.855	58.840	23.750	20.386	40.234	256.006	458.746

Note: mining is calculated as part of “industry”. Four agricultural counties are not mentioned. Population includes non working population.

Sources: own calculation from (Reinick, 1865-1867: vol. I, 152pp.).

Table 2: Employment in select industries. Administrative district of Aachen, 1861

A. Handicraft, local markets	22.983		27,1%
B. Factory related weavers, journeymen, apprentices	10.534		12,4%
C. "Industry"	51.393		60,5%
Employees in total (including management)	84.910		100,0%
I. Mining	9.856		
Coal mining	4.951	#	5,8%
Lead ore mining	3.084	#	3,6%
Zinc ore mining	777	#	0,9%
Iron ore mining	823	#	1,0%
II. Metal production	4.028		
Iron works	818	#	1,0%
Bar iron/steel factories	1.914	#	2,3%
Zinc industry	561	#	0,7%
Lead industry	412	#	0,5%
III. Spinning	4.242		
Woollen yarn	3.285	#	3,9%
IV. Weaving	13.541		
Woollen cloth industry (vertically integrated)	12.528	#	14,8%
V. Bleaching, dye works etc.	495		0,6%
VI. Metal products	6.139		
Needles industry	2.151	#	2,5%
Iron goods	1.890	#	2,2%
Machine industry	955	#	1,1%
Iron foundries	302	#	0,4%
Railway wagon industry	394	#	0,5%
Carding industry	236	#	0,3%
VI. Minerals	6.152		
Coke	199	#	0,2%
Glass industry	362	#	0,4%
Mirror glass factory	463	#	0,5%
VIII. Processing of plants and animals for trade	2.533		
IX. Wooden goods, paper, dry goods	1.742		
Paper factories	1.567	#	1,8%
X. "Foodstuff"	2.292		
Tobacco factories	1.246	#	1,5%
XI. different trades	373		

= large industries and factory production

Sources: own calculation from (Reinick, 1865-1867: vol. I, 152ff.).

References

- (1860). Die Aus- und Einwanderungen im Preussischen Staate. *Zeitschrift des Königl. Preussischen Statistischen Bureaus* 3, 56-84.
- (1861). Die Sparcassen in Preußen. *Zeitschrift des Königl. Preussischen Statistischen Bureaus* 4, 85-108.
- (1925). *Aachener und Münchener Feuer-Versicherungsgesellschaft. Denkschrift zur Hundertjahrfeier 1825-1925*. Aachen: Aachener Verl.- u. Druckerei-Ges.
- Abel, W. (1974). *Massenarmut und Hungerkrisen im vorindustriellen Europa. Versuch einer Synopsis*. Hamburg u. Berlin: Paul Parey.
- Acemoglu, D., Cantoni, D., Johnson, S. and Robinson, J. A. (2011). The Consequences of Radical Reform: The French Revolution. *American Economic Review* 111, 3286-3307.
- Acemoglu, D. and Robinson, J. A. (2012). *Why nations fail: the origins of power, prosperity and poverty*. New York: Crown Publishers.
- Althammer, B. (2002). *Herrschaft, Fürsorge, Protest. Eliten und Unterschichten in den Textilgewerbestädten Aachen und Barcelona, 1830-1870*. Bonn: Dietz.
- Anton, G. K. (1891). *Geschichte der preußischen Fabrikgesetzgebung bis zum Erlasse des Regulativs vom 9. März 1939*.
- Arens, E. and Janssen, W. L. (1937). *Geschichte des Club Aachener Casino, gegründet 9. Dez. 1805*. Aachen.
- Bass, H.-H. (1991). *Hungerkrisen in Preussen während der ersten Hälfte des 19. Jahrhunderts*. St. Katharinen: Scriptorae Mercatura.
- Bass, H.-H. (1994). Hungerkrisen in Posen und im Rheinland 1816/17 und 1847. In *Der Kampf um das tägliche Brot* (Eds, Gailus, M. and Volkmann, H.). Opladen, 151-175.
- Berndt, F. (1884). *Der Aachener Verein zur Beförderung der Arbeitsamkeit. Sein Werden, Wirken und Wollen von seinen Anfängen bis zur Gegenwart*. Aachen: Aachener Verein zur Beförderung der Arbeitsamkeit.
- Bernert, G. (1982). Die französischen Gewerbeberichte (Conseils de Prud'hommes) und ihre Einführung in den linksrheinischen Gebieten zwischen 1808 und 1813. In *Vom Gewerbe zum Unternehmen. Studien zum Recht der gewerblichen Wirtschaft im 18. und 19. Jahrhundert* (Eds, Scherner, K.-O. and Willoweit, D.). Darmstadt: Wissenschaftliche Buchgesellschaft, 112-151.
- Bock, H. (1980). *Die Illusion der Freiheit. Deutsche Klassenkämpfe zur Zeit der französischen Julirevolution 1830 bis 1831*. Berlin.
- Bock, H. (1990). Rheinpreußische Arbeiterunruhen und preußisch-deutsche Reflexionen. Zur sozialen Frage in der "Restaurationsperiode" 1815-1830. In *Die Rheinlande und Preußen. Parlamentarismus, Parteien und Wirtschaft* (Eds, Kastner, D. and Mölich, G.). Köln, 40-62.
- Bock, H. (1994). Maschinenstürmer in Aachen. Sozialrebellion gegen das Unternehmertum. In *Aufbruch in die Bürgerwelt* (Eds, Bock, H. and Plöse, R.). Münster, 46-56.
- Conrad, H. (1969). Preußen und das französische Recht in den Rheinlanden. In *Recht und Rechtspflege in den Rheinlanden* (Eds, Wolfram, J. and Klein, A.). Köln: Wienand, 78-113.

- Düwell, K. (1983). Die Unruhen der Aachener Textilarbeiter 1830. In *Rheinland-Westfalen im Industriezeitalter, Bd. 1* (Eds, Düwell, K. and Köllmann, W.). Wuppertal, 114-125.
- Faber, K.-G. (1970). *Recht und Verfassung. Die politische Funktion des rheinischen Rechts im 19. Jahrhundert*. Köln.
- Fehrenbach, E. (1974). *Traditionale Gesellschaft und revolutionäres Recht. Die Einführung des Code Napoléon in den Rheinbundstaaten*. Göttingen: Vandenhoeck & Ruprecht.
- Fremdling, R. (1981). John Cockerill: Pionierunternehmer der belgisch-niederländischen Industrialisierung. *Zeitschrift für Unternehmensgeschichte* 26, 179-193.
- Glaeser, E. and Shleifer, A. (2002). Legal Origins. *Quarterly Journal of Economics* 117, 1193-229.
- Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology* 91, 481-510.
- Handelskammer für Aachen und Burtscheid (Ed.) (1853ff.). *Jahresbericht der Handelskammer für Aachen und Burtscheid für 1852ff.* Aachen.
- Hansemann, D. (1834). *Unseren Mitbürgern im Regierungsbezirke Aachen. Die Direktion der Aachener Feuer-Versicherungs-Gesellschaft, als berufen zur Gründung des Aachener Vereins zur Beförderung der Arbeitsamkeit*. Aachen.
- Henkel, M. and Taubert, R. (1979). *Maschinenstürmer. Ein Kapitel aus der Sozialgeschichte des technischen Fortschritts*. Frankfurt a.M.
- Henning, H. and Tennstedt, F. (Eds.) (1990-2006). *Quellensammlung zur Geschichte der deutschen Sozialpolitik, 1867-1914. I. Abteilung, 8 Bde.* Darmstadt: WBG.
- Hennock, E. P. (2007). *The Origin of the Welfare State in England and Germany, 1850-1914: Social Policies Compared*. Cambridge: Cambridge University Press.
- Hermanns, L. (1982). Die Tuchscherer. Eupens erste solidarische Arbeiterschaft. *Geschichtliches Eupen* 16, 150-171.
- Hodges, T. (1960). The Iron King of Liège: John Cockerill. Columbia University
- Jaquemin, P. (1878). *L'Etablissement Cockerill*. Lüttich.
- Kuhnle, S. and Sander, A. (2010). The Emergence of the Western Welfare State. In *The Oxford Handbook of the Welfare State* (Eds, Castles, F. G., Leibfried, S., Lewis, J., Obinger, H. and Pierson, C.). Oxford: Oxford University Press, 61-80.
- Königliches Statistisches Bureau (Ed.) (1861ff.). *Preussische Statistik*.
- La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2007). The Economic Consequences of Legal Origins. *Journal of Economic Literature* 46, 285-332.
- Lingens, P. (1922). Die Entwicklung der rheinisch-westfälischen Nadelindustrie von den ältesten Anfängen bis zur Gegenwart. Unter bes. Berücksichtigung der Kriegsverhältnisse u. d. wirtschaftlichen Zusammenschlüsse, 3 Bde. Köln
- Lotz, H. (1920). John Cockerill in seiner Bedeutung als Ingenieur und Industrieller 1790-1840. *Beiträge zur Geschichte der Technik und Industrie* 20, 103-120.
- Mahaim, E. (1905). Les débuts de l'établissement John Cockerill à Seraing. Contribution à l'histoire des origines de la grande industrie au Pays de Liège. *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 5, 627-648.
- Mahoney, P. (2001). The Common Law and Economic Growth: Hayek Might be Right. *Journal of Legal Studies* 30, 503-525.
- Masius, E. A. (1846). *Lehre der Versicherung und statistische Nachweisung der Versicherungs-Anstalten in Deutschland; nebst Hinweisung auf den hohen Einfluß*

- dieser Institute auf Nationalwohlstand und die Gesetze darüber in den verschiedenen Staaten.* Leipzig: Fest.
- McCloskey, D. N. (2006). *The Bourgeois Virtues. Ethics for an Age of Commerce.* Chicago: University of Chicago Press.
- Mieck, I. (1997). Die Anfänge der Dampfmaschinen-Überwachung in Preußen. In *Wirtschaft im Umbruch. Strukturveränderungen und Wirtschaftspolitik im 19. und 20. Jahrhundert* (Eds, Fischer, W., Müller, U. and Zschaler, F.). St. Katharinen: Scripta Mercaturae, 7-25.
- Minke, A. (1986). Arbeiterunruhen und Arbeitersolidarität in Eupen zur französischen Zeit. *Geschichtliches Eupen* 20, 102-132.
- Pasleau, S. (1993). *John Cockerill. Itinéraire d'un géant industriel.* Allier-Liége: Editions du Perron.
- Pohl, H. (1999). Die Sparkasse als liberales Wohlfahrtsinstrument: David Hansemanns "Aachener Verein für die Beförderung der Arbeitsamkeit". In *Standortbestimmung Sparkassengeschichte. Festschrift für Manfred Pix* (Eds, Feldenkirchen, W. and Krüger, I.). Stuttgart: Deutscher Sparkassen Verlag, 315-331.
- Pollard, S. (1981). *Peaceful Conquest. The Industrialization of Europe 1760-1970.* Oxford: Oxford University Press.
- Puppke, L. (1966). *Sozialpolitik und soziale Anschauungen frühindustrieller Unternehmer in Rheinland-Westfalen.* Köln.
- Reckendrees, A. (2006). Diverse Paths to Factory Production, 1780s-1840s: the Woollen Cloth Industry in the West Riding of Yorkshire and in the West of the Rhineland (Prussian Rhine-Province). *Cologne Economic History Papers* 1.
- Reckendrees, A. (2010). Institutioneller Wandel und wirtschaftliche Entwicklung - Das westliche Rheinland in der ersten Hälfte des 19. Jahrhunderts. In *Deutschland als Modell? Rheinischer Kapitalismus und Globalisierung seit dem 19. Jahrhundert* (Eds, Gilgen, D., Kopper, C. and Leutzsch, A.). Bonn: J.H.W. Dietz Nachf., 45-87.
- Reckendrees, A. (2012a). Kap. 4: Steinkohlenbergbau (*version 04.2012*). unpublished manuscript.
- Reckendrees, A. (2012b). Zur Funktion der Aktiengesellschaften in der frühen Industrialisierung. *Jahrbuch für Wirtschaftsgeschichte* II, 137-174.
- Reckendrees, A. (2013, forthcoming). Das Unglück auf der Grube Gouley 1834. Ereignis, Kommunikation und die Gründung der Wurm-Knappschaft. In *Industrielle Krisenkommunikation* (Eds, Patzel-Mattern, K., Wischermann, C. and Kleeberg, B.). Stuttgart: Steiner.
- Reinick, H. A. v. (Ed.) (1865-1867). *Statistik des Regierungsbezirks Aachen in amtlichem Auftrag herausgegeben von H.A. Reinick, 3 Bde.* Aachen.
- Reulecke, J. (1983). *Sozialer Frieden durch soziale Reform: Der Centralverein für das Wohl der arbeitenden Klassen in der Frühindustrialisierung.* Wuppertal.
- Ritter, G. A. (1983). *Social Welfare in Germany and Britain. Origins and Development.* Leamington Spa: Berg.
- Schainberg, H. (2004/1997). *Die belgische Beeinflussung der Frühindustrialisierung im Aachener Raum, ca. 1820 - 1860.*
- Schubert, W. (1977). *Französisches Recht in Deutschland zu Beginn des 19. Jahrhunderts.* Köln: Böhlau.
- Schöttler, P. (1985). Die rheinischen Fabrikengerichte im Vormärz und in der Revolution von 1848/49. *Zeitschrift für neuere Rechtsgeschichte* 7, 160-180.

- Seyffart, L. (1827). *Worte an die Bewohner des Regierungsbezirks Aachen, von Seiten der Direktion der Aachener Feuer-Fersicherungs-Gesellschaft als berufen zur Gründung eines Vereins zur Förderung der Arbeitsamkeit*. Aachen.
- Simons (1890). *Geschichte und Statistik der Wurm-Knappschaft in Bardenberg bei Aachen unter Berücksichtigung des gesamten deutschen Knappschaftswesens nach amtlichen Quellen bearbeitet und gelegentlich des 50jährigen Bestehens der Wurm-Knappschaft herausgegeben*. Berlin: Berliner Buchdruckerei-Actien-Berufsgenossenschaft.
- Sobania, M. (1991). Das Aachener Bürgertum am Vorabend der Industrialisierung. In *Vom alten und neuen Bürgertum. Die mitteleuropäische Stadt im Umbruch* (Ed, Gall, L.). München: Oldenbourg, 183-228.
- Spehr, M. (2000). *Maschinensturm. Protest und Widerstand gegen technische Neuerungen am Anfang der Industrialisierung*. Münster.
- Statistisches Bureau zu Berlin (Ed.) (1851ff.). *Tabellen und amtliche Nachrichten über den Preußischen Staat für das Jahr 1849ff*. Berlin.
- Strauch, D. (1982). Unternehmensrecht im 19. Jahrhundert. In *Vom Gewerbe zum Unternehmen. Studien zum Recht der gewerblichen Wirtschaft im 18. und 19. Jahrhundert* (Eds, Scherner, K.-O. and Willoweit, D.). Darmstadt: Wissenschaftliche Buchgesellschaft, 208-250.
- Tennstedt, F. (1981). Vorgeschichte und Entstehung der kaiserlichen Botschaft vom 17. November 1881. And the text of the statement. *Zeitschrift für Sozialreform* 27.
- Thomes, P. (1999). Die Spar- und Prämienkasse des Aachener Vereins für die Beförderung der Arbeitsamkeit als alternatives gemeinnütziges Unternehmenskonzept. In *Standortbestimmung Sparkassengeschichte. Festschrift für Manfred Pix* (Eds, Feldenkirchen, W. and Krüger, I.). Stuttgart: Deutscher Sparkassenverlag, 333-347.
- Thomes, P. (2004). *1804-2004. 200 Jahre mitten in Europa. Die Geschichte der Industrie und Handelskammer Aachen*. Aachen: Shaker.
- Venedey, J. (1831). *Darstellung der Verhandlungen vor den Assisen zu Köln über die Teilnehmer an den am 30. August 1830 in Aachen stattgehabten Aufruhr, nebst Schlußbemerkungen*. Köln.
- Volkman, H. (1973). Wirtschaftlicher Strukturwandel und sozialer Konflikt in der Frühindustrialisierung. Eine Fallstudie zum Aachener Aufruhr von 1830. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* Sonderheft 16, 550-565.
- Willoweit, D. (1982). Die Entstehung der preußischen Fabrikengerichte im späten 18. Jahrhundert. *Zeitschrift für Neuere Rechtsgeschichte*, 1-25.
- Wischermann, C. and Nieberding, A. (2004). *Die institutionelle Revolution. Eine Einführung in die deutsche Wirtschaftsgeschichte des 19. und frühen 20. Jahrhunderts*. Stuttgart.
- Zeyss, R. (1907). *Die Entstehung der Handelskammern und die Industrie am Niederrhein während der französischen Herrschaft. Ein Beitrag zur Wirtschaftspolitik Napoleons I.* Leipzig: Duncker & Humblot.
- Aachener Verein zur Beförderung der Arbeitsamkeit (Ed.) (1909). *Aachener Verein zur Beförderung der Arbeitsamkeit. Festschrift zum 75jährigen Jubiläum 1834-1909*. Aachen: Aachener Verl.- & Druckgesellschaft.