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Economic Effects of Deregulation

Using the Example of the Revised Trade and Crafts Code 2004

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Zusammenfassung

Der Aufsatz untersucht die Auswirkungen der Reform der Handwerksordnung 2004 in Deutschland. Damals wurden 54 der 95 Handwerkszweige zulassungsfrei gestellt, d.h. für die Gründung eines Unternehmens ist seitdem keine Meisterprüfung mehr notwendig. Diese Untersuchung ist deshalb von aktueller Relevanz, weil auf europäischer Ebene breit über die Regulierung von Berufen diskutiert wird.

Die Analyse stand deshalb vor einer großen Herausforderung, weil sich eine geeignete Kontrollgruppe nur mit Einschränkung finden ließ. Insgesamt kann jedoch festgestellt werden, dass sich die großen Hoffnungen der damaligen Befürworter der Reform nicht erfüllt haben. Weder ist es zu einer Beschäftigtenexpansion im Handwerk gekommen, noch können Impulse für Ausbildungsplätze beobachtet werden.

Abstract

This paper examines the effects of the reform of the German Trade and Crafts Code of 2004, which removed entry requirements in 54 out of 95 crafts occupations. Since then, the Meister degree (advanced dual training degree) is no longer a prerequisite for opening a business in these occupations. The topic is highly relevant as there is an ongoing debate about the advantages and disadvantages of the regulation of occupations on the European level.

The lack of suitable control group represents a major challenge of this analysis. Nevertheless, it can be argued that the goals brought forward by proponents of deregulation have not been achieved. Neither was there a major expansion of employment in the crafts sector, nor do we observe positive effects on training.

Keywords: Skilled Crafts, Deregulation, Trade and Crafts Code

1 Introduction

In autumn 2013, the European Commission published its announcement “Evaluation of National Regulations on Access to Professions”. With this proposition, the Commission intended to actuate growth and employment in Europe, which put the topic of occupational deregulation back on the European agenda. As a basis for the subsequent political process, the Commission presented an EU-wide “Map of Regulated Occupations”. Concerning Germany, 152 corresponding occupations were identified, including the 41 skilled crafts and trades that require registration (also called ‘skilled crafts A’ because they are listed in Annex A of the Trade and Crafts Code). In these occupations, a certificate of proficiency is needed for self-employment or an operating manager has to be hired who is equally qualified.[1] Against this backdrop, an intensive discussion was initiated in Germany about the advantages and disadvantages of this qualification-bound access to professions in the form of the master craftsman’s certificate.

It is conducive to the discussion that the German skilled crafts have been confronted with deregulation before. 54 branches were excused from certification with the revised Trade and Crafts Code from 1 January 2004 (‘skilled crafts B1’). The subsequent experiences indicate the effects that the repeal of the former obligatory certificate might have on the remaining 41 skilled crafts A.

This paper therefore aims at examining the effects of the 2004 reform. It is structured by reference to the most important aims that were pursued with the reform at the time[2] and that are still mentioned by proponents of deregulation.[3] Increasing the number of business start-ups is supposed to enhance employment, lower the prices and intensify competition and innovation.[4] In addition to these advantages possible negative effects of deregulation, especially those on human capital, are discussed.

In addition to limited data, this analysis has to cope with two major difficulties. Firstly, we need a reference group which can consist of the 41 skilled crafts that require registration. This is problematic, however, because career entry has become easier in this group due to the revised Trade and Crafts Code. Liberating regulations concerning experienced workers permit them to start their own company although they do not hold a master craftsman’s certificate[5], and they also affect operating

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1 The regulation does, however, not affect the appointment of skilled employees.

2 Deutscher Bundestag (2003). Bundestagsdrucksache 15/1206 vom 24.6.2003, available at: http://dip21.bundestag.de/doc/btd/15/012/1501206.pdf (last accessed 04.08.2015).

3 European Commission: Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee on Evaluating National Regulations on Access to Professions, Brussels 2013, COM 2013/676 final 02.10.2013.

4 For a discussion on these effects in research literature see M. Lankau, K. Müller: Der Kommissionsvorschlag zur Deregulierung des Handwerks. Eine kritische Einschätzung der ökonomischen Literatur, in: Göttinger Beiträge zur Handwerksforschung, Vol. 5, Göttingen 2015.

5 This regulation does not apply for health trade professions and chimney sweepers that are comparatively

managers with such a qualification and the recognition of other certificates[6], resulting in major changes.

Furthermore, the development in the skilled crafts is not only influenced by the lacking requirement of certification but also by other external factors that variously affected the skilled crafts A and B1. These include the economic crisis of 2008/2009, adolescents' changing preferences concerning vocational training or varying political conditions. Additionally, we can observe a shift of occupations from the skilled crafts A and the trades B2[7] to the skilled crafts B1. Certain services that were once reserved for the skilled crafts A can now be offered by companies in the skilled crafts B1.

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small and that have to fulfill special requirements in order to serve as a reference group.

6 J. Kormann, F. Hüpers: Das neue Handwerksrecht. Rechtsfolgen aus der HwO-Novelle 2004 für Handwerksbetriebe und -organisationen. Überblick, Zweifelsfragen und Resümee. Munich 2004, Ludwig-Fröhler-Institut für Handwerkswissenschaften.

7 The trades B2 are similar to skilled crafts and also registered with the Chamber of Skilled Crafts; see pp. 16 ff. in: M. Glasl, B. Maiwald, M. Wolf: Handwerk – Bedeutung, Definition, Abgrenzung, Munich 2008, Ludwig-Fröhler-Institut für Handwerkswissenschaften. The trades B2 are not included in the censuses of the skilled crafts, which is why the tables based on the censuses cannot consider them.

2 Business Formations in the Skilled Crafts

2.1 Number of Business Formations

Deregulation facilitates the market access for business founders and is thereby likely to increase the number of business start-ups. Figure 1 shows that deregulating the skilled crafts in 2004 led to a significant boom in business formations in the formerly regulated skilled crafts.[8] Before 2004, approximately 4,000 businesses were founded in the skilled crafts that required certification at the time. After certification was repealed in 2004, the number of business formations promptly increased. In addition to the reform, other factors were involved in this development such as the strong public promotion of business start-ups in the last decade and the enlargement of the EU by ten Central and Eastern European countries.[9] The number of business formations in those skilled crafts liable to certification was exceeded for the first time in 2007. By 2014, the differences between the skilled crafts A and B1 had considerably extended.

The boom in business formations in the 54 occupations not liable to certification can be primarily observed in four branches: About 80% of all businesses were founded by tilers, pavers and mosaics workers, building cleaners, photographers and interior designers.

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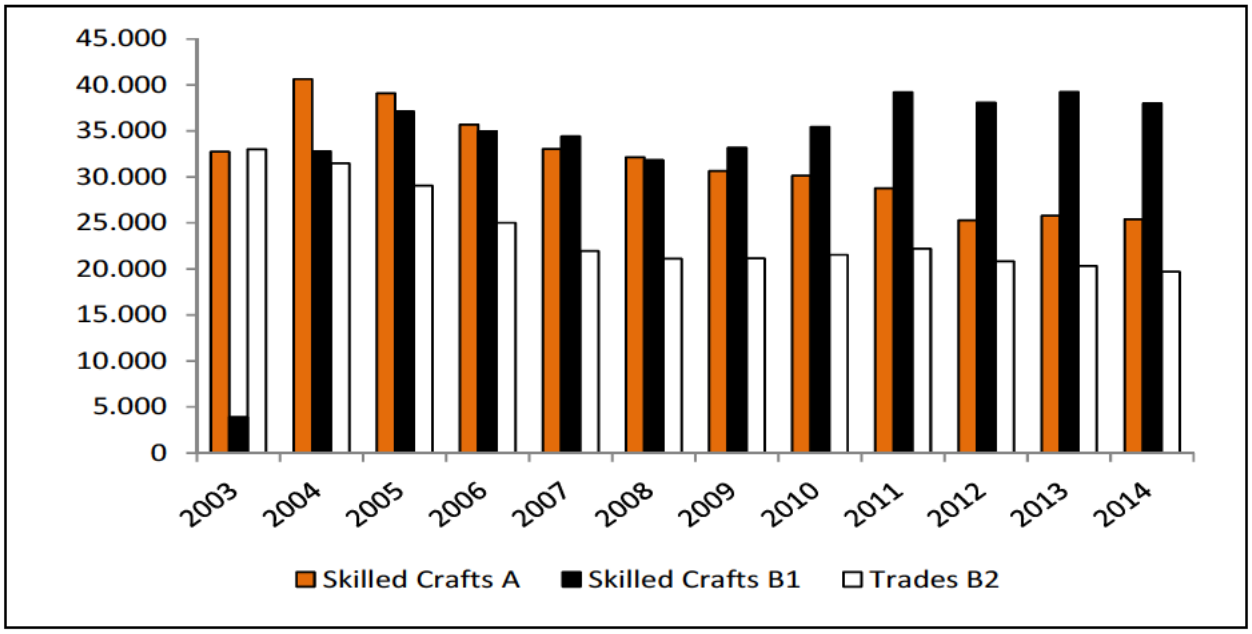
[8] Since there are no official statistics of business formations in the skilled crafts, the registers of qualified craftsmen in the Chamber of Skilled Crafts served as a basis for this analysis. Those entries that do not rest on business formations were not considered; see K. Müller (2014): Stabilität und Ausbildungsbereitschaft von Existenzgründungen im Handwerk. Göttinger handwerkswirtschaftliche Studien, Vol. 94, Duderstadt 2004.

[9] Cf. K. Müller: Erste Auswirkungen der Novellierung der Handwerksordnung von 2004, Göttinger handwerkswirtschaftliche Studien, Vol. 74, Duderstadt 2006, and K. Bizer, M. Lankau, K. Müller: Transparenzinitiative und volkswirtschaftliche Betrachtung des Kommissionsvorschlags zur Deregulierung des Handwerks. Sachverständigenauftrag 87/14 des Bundesministeriums für Wirtschaft und Energie 2014. (unpublished)

Figure 1: Number of Business Formations in the Skilled Crafts 2000-2014[10]



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Analysing the development of business formations in the skilled crafts A and in the trades B2 produces further results. The former show an increase in business formations after the reform which, according to Müller[11], is solely due to certain liberating factors mentioned above. This, however, was a one-time effect and after a short period of time, the number of business formations relapsed to its old level.

For sector B2, however, show a different tendency. The numbers of business formations almost continually declined since the revision of the Trade and Crafts Code. This development was primarily caused by a shift because founders without a certificate tend to register their businesses in a renowned B1 branch rather than in a trade B2. If this effect was considered, less businesses would be founded in the skilled crafts B1.

Conclusively, we can observe that business formations in sector B1 have been booming since the revision of the Trade and Crafts Code. This boom was also enhanced by other factors and the proponents' predictions were verified.

2.2 Effects on the Total Number of Businesses

The total number of businesses in the skilled crafts increased with all newly founded enterprises. The average annual increase of 14,000 businesses from 2003 to 2014

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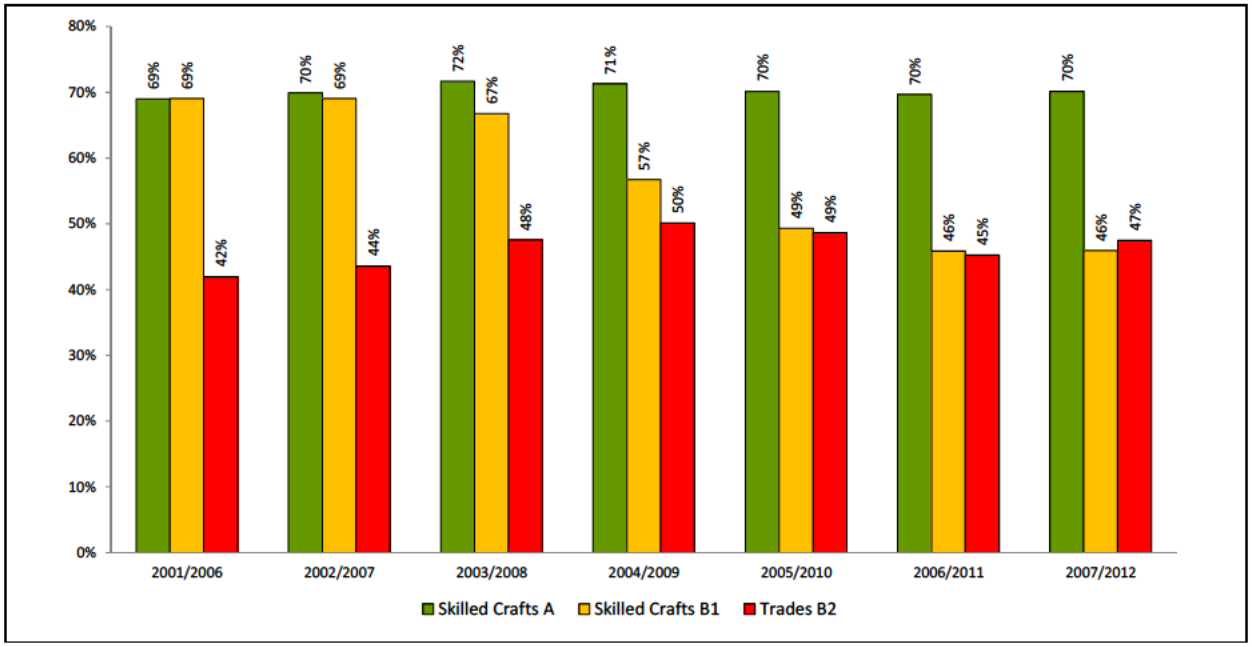
10 Sources: German Confederation of Skilled Crafts, own calculations.

11 K. Müller (2006), op. cit., p. 49.

was comparatively minor[12] and due to the fact that many businesses did not permanently stay on the market.

Whereas the survival rate in the skilled crafts liable to certification remained quite constant with 70% for the businesses founded from 2001 to 2006, it has dropped from about 70% to 45% for the skilled crafts without certification since 2004 (see figure 2).[13] This level almost exactly corresponds to the trades B2.[14] Nevertheless, the aim of the 2004 reform to raise the number of founders and the total number of businesses was clearly fulfilled.

Figure 2: 5-year Survival Rate of Newly Founded Businesses in the Skilled Crafts[15]



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How to read the chart: of 100 businesses founded in 2001 in the skilled crafts A 69% still existed on 31.12.2006.

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12 Cf. K. Bizer, M. Lankau, K. Müller (2014), op. cit., pp. 5f. This examination was based on business data from the registers of all German Chambers of Skilled Crafts, which, for various reasons, clearly surpass the results of the censuses by the Federal Office of Statistics. In reality, the increase in the total number of businesses is therefore significantly smaller; see K. Müller: Analyse der Handwerkszählung 2008, Göttinger handwerkswirtschaftliche Studien, Vol. 85, Duderstadt 2012, pp. 238ff.

13 See also K. Müller (2014), op. cit., pp. 60ff.

14 This calculation is based on a special evaluation of registers of different Chambers of Skilled Crafts. Especially for the skilled crafts B1, the survival rates are actually likely to be lower because businesses often leave the market without being deleted from the register.

15 Source: Müller (2014), op. cit.

2.3 Effects on Innovations

In theory, it is assumed that the increasing number of businesses will enforce competition and thereby create incentives to invest in innovations.[16] According to literature, important conditions for these investments are:[17]

- business size[18]
- individual-related human capital (especially of the owner), being immensely important for small businesses in particular[19]

Unfortunately, the data regarding the structure of business size in the skilled crafts is comparatively poor. The 1994/1995 and 2008 censuses vary significantly, wherefore detailed information is lacking for 2003, the year before the revision. Overall, average business size has sunk in this period of time; and it did so relatively slightly in the skilled crafts A but massively in the skilled crafts B1.[20] For the period between 2008 and 2012, there was a slight increase regarding sector A while the decrease continued in the skilled crafts.[21] The development becomes particularly clear for all freelance one-man businesses. Although they formerly played a minor role in the skilled crafts as compared to overall economy, their share in the skilled crafts without certification is now considerably higher (see figure 3).[22]

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16 Cf. M. Kleiner: Licensing Occupations: Ensuring Quality or Restricting Competition? Kalamazoo, MI 2006, W.E. Upjohn Institute for Employment Research.

17 Other factors such as financial resources can be considered crucial, too.

18 Cf. Z. J. Acs, D. B. Audretsch, D.B.: Innovation and Technological Change, in: Z. J. Acs, D. B. Audretsch, D.B. (eds.): Handbook of Entrepreneurship Research. An Interdisciplinary Survey and Introduction. New York 2005, Springer, pp. 55–79; W. Cohen: Empirical Studies of Innovative Activity, in: P. Stoneman (ed.): Handbook of the Economics of Innovation and Technological Change. Oxford, UK and Cambridge, MA 1995, Blackwell, pp. 182–264.

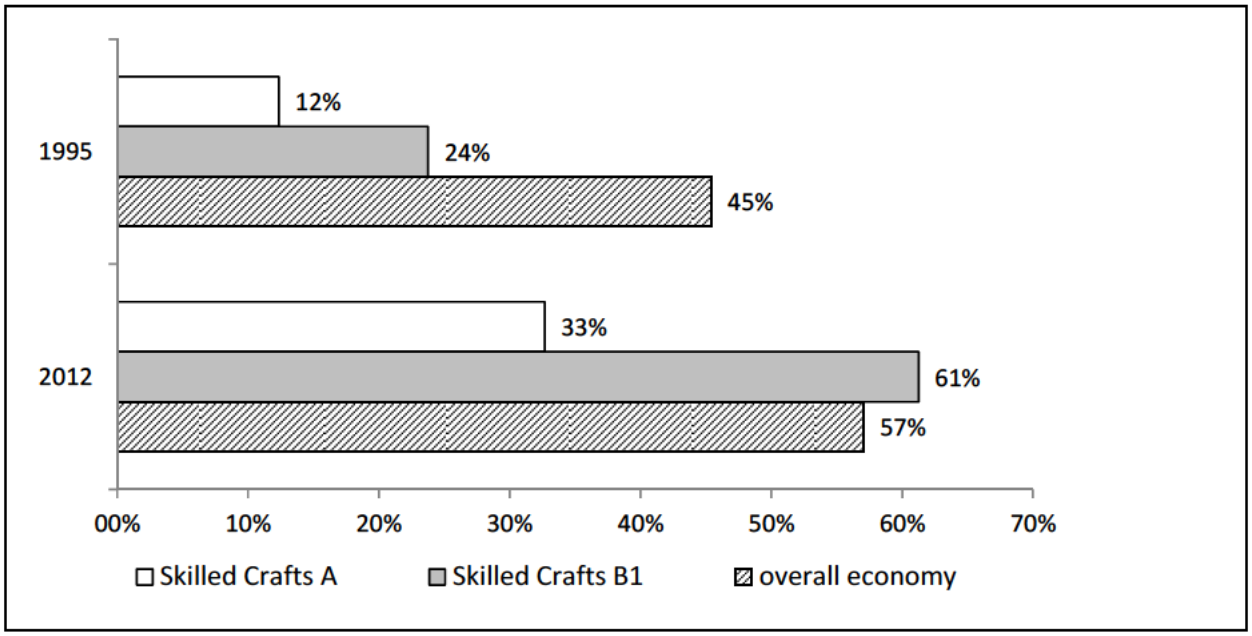
19 Cf. B. Nooteboom: Innovation and Diffusion in Small Firms: Theory and Evidence, in: Small Business Economics, Vol. 6, No. 5, 1994, pp. 327–347 and J. Baldwin, G. Gellatly: Innovation Strategies and Performance in Small Firms. Cheltenham, UK and Northampton, MA 2003, Edward Elgar.

20 Cf. K. Müller (2012), op. cit.

21 Cf. K. Müller: Strukturentwicklungen im Handwerk. Göttinger handwerkswirtschaftliche Studien, Vol. 98, Duderstadt 2015.

22 No data is available for the trades B2. Experience has shown that, for those branches, the number of freelance one-man businesses is comparatively high; cf. K. Müller, A. Rudolph, A.: Struktur und Bedeutung des handwerksähnliches Gewerbes in Deutschland, Göttinger Handwerkswirtschaftliche Arbeitshefte, Vol. 38, Göttingen 1998. The freelance one-man businesses that are not subject to VAT are not included in the census. About 110,000 of these businesses exist in the German skilled crafts (cf. K. Müller (2015), op. cit.).

Figure 3: Percentage of One-man Businesses in the Skilled Crafts and Overall Economy[23]



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In the skilled crafts, the proprietor's human capital is primarily proven by the master craftsman's examination. As an alternative or supplement, a degree from a university or a university of applied sciences can be of advantage. The number of business founders with a master craftsman's certificate in the skilled crafts B1 has significantly dropped after the repeal of certification (see table 1). Whereas 74.2% of founders has such a qualification before the reform only 17.7% were equally qualified after 2004. Even if considering graduates, founders' qualifications in the skilled crafts B1 immensely decreased after the reform. In the skilled crafts A, too, a decrease can be observed, which was probably caused by the regulations on experienced workers and operating managers. It was, however, significantly smaller than in the skilled crafts B1.

[23] Sources: 1995 and 2012 censuses in the skilled crafts by the Federal Office of Statistics.

Table 1: Business Founders' Qualifications in the Skilled Crafts (Multiple Choice)[24]

	Apprenticeship Certification Exam	Master Craftsman's Examination	University of Applied Sciences Degree	University Degree	No Specialist Qualification
Skilled Crafts A	85.9%	75.5%	12.4%	7.3%	2.3%
Business Formations before 2004	86.2%	78.8%	12.7%	7.4%	1.9%
Business Formations in 2004 and after	85.0%	64.4%	11.3%	6.6%	4.0%
Skilled Crafts B1	82.8%	55.5%	8.7%	5.8%	9.6%
Business Formations before 2004	89.2%	74.2%	8.8%	4.5%	4.7%
Business Formations in 2004 and after	70.1%	17.7%	8.7%	8.1%	19.1%
Total	**85.1%**	**72.1%**	**12.1%**	**7.1%**	**3.5%**

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[24] Source: 2013 survey by the German Confederation of Skilled Crafts, unweighted.

3 Effects on the Labour Market

Deregulation and the resulting formation of businesses are mostly expected to exert positive effects on employment.[25] To examine whether such effects occurred in the German skilled crafts, a reference group is needed and can be based on those branches that still require certification. It is important to mention, however, that the skilled crafts A and B1 are influenced by different factors and that shifts have occurred between these two, which will be explained using two examples:

The skilled crafts B1 are dominated by the branch of building cleaners. About 63% of workers and 62% of employees subject to social insurance contributions are cleaners, and within this occupation over 50% work in large-scale businesses (with over 50 employees). In the past years, cleaners extended their business activities[26] which resulted in increased employment rates. From 2008 to 2012, building cleaners constituted 80% (67,000 jobholders) of 83,000 new jobholders in the skilled crafts B1 and were thereby mainly responsible for the increase of employees that are subject to social insurance contributions. Almost two thirds of the cleaners work at the approximately 2,000 large-scale businesses that have been asserting themselves on the market for quite some time. The positive development of employment in these businesses is most probably not due to revision of the Trades and Crafts Code.

Suppliers and producers of capital goods in the skilled crafts were severely hit by the 2008/2009 economic crisis, followed by a decrease in employment. Almost all of those occupations require certification.

Despite these restrictions, the following analysis compares employees in the skilled crafts A and B1. Profound official statistics are available for the skilled crafts only since 2008. Numbers for preceding years can be taken from analyses by the RWI Essen,[27] which are primarily based on an update of the 1995 census and on reports from the skilled crafts.

The number of employees has been steadily decreasing since 1994; a development caused by the strong branch of building, the bottoming out of which did not occur before 2006 (see figure 4). This general trend[28] can be observed in both the skilled

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[25] Cf. Kleiner, M. (2006), op. cit. and Centre for Strategy and Evaluation Services: Study to Provide an Inventory of Reserves of Activities linked to Professional Qualifications Requirements in 13 EU Member States & Assessing their Economic Impact. Ed. by the European Commission, DG Internal Market and Services 2012. Available at: http://ec.europa.eu/internal_market/qualifications/docs/news/20120214-report_en.pdf (last accessed 01.07.2015).

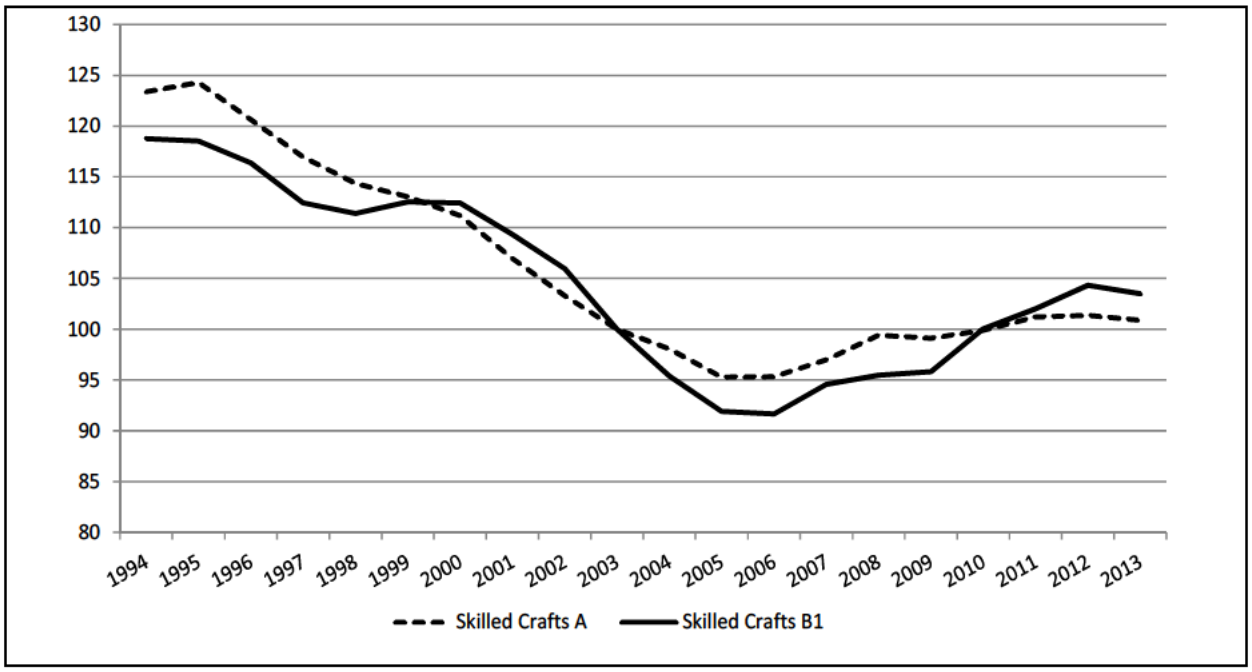
[26] The market for these businesses expanded because they increasingly for in facility management.

[27] Cf. RWI: Analyse der Ergebnisse der Unternehmensregisterauswertung Handwerk 2008. Endbericht, Studie im Auftrag des Bundesministeriums für Wirtschaft und Technologie, Essen 2012. After 2008, the data of the RWI statistics were replaced by the data of the censuses after 2008. For 2013, the data of the 2012 census was continued by means of reports from the skilled crafts.

[28] Cf. Müller (2015), op. cit.

crafts with and without certification. It is striking, however, that the number of employees in the skilled crafts without a required qualification remained lower after 2003 than for the other skilled crafts. Since around 2010 the development in the skilled crafts B1 is slightly more positive, although the difference between the regulated and non-regulated branches remains small.

Figure 4: Number of Employees in the Skilled Crafts A and B1 from 1994 to 2013 (2003 = 100)[29]



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To avoid that an increase in employees is not only based on a higher number of proprietors, the following analysis only considers the employees subject to social insurance contributions. It is based solely on data from the skilled crafts censuses since 2008.[30] This comparison shows a slightly more positive development for the skilled crafts B1. Without the building cleaners who, as mentioned before, are subject to special effects, the number of employees increased even more in the skilled crafts A than in the skilled crafts B1.

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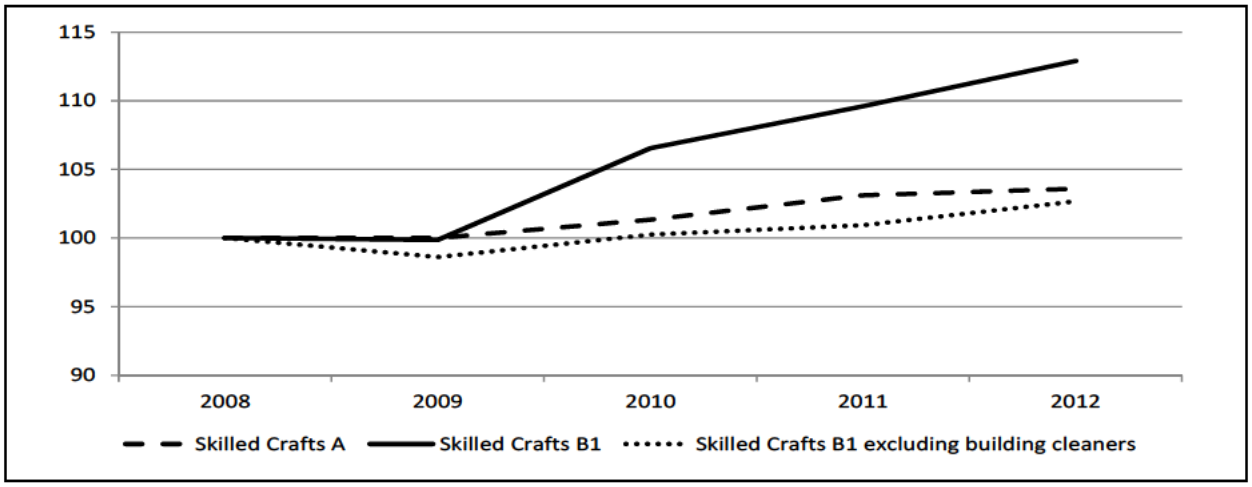
29 Sources: RWI: Analyse der Ergebnisse der Unternehmensregisterauswertung Handwerk 2008. Endbericht – Anlagen, Studie im Auftrag des Bundesministeriums für Wirtschaft und Technologie, Essen 2012, p. 137, 2008-2012 censuses in the skilled crafts by the Federal Office of Statistics, reports of the skilled crafts.

30 This is rather unfortunate but advantageous as for the fact that the one-time effects that occurred after the reform can no longer influence the result.

Figure 5: Employees Subject to Social Insurance Contributions in the Skilled Crafts A and B1 from 2008 to 2012 (2008 = 100)[31]



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In the skilled crafts B1, hence, a strong development of employment cannot be detected. This result is even more relativised if taking into account the volume of work. The skilled crafts can, however, only be differentiated into full-time and part-time jobs (and small jobs). In the skilled crafts A 81% of employment growth was observed in full-time jobs and 19% in part-time jobs. The skilled crafts B1 showed the opposite development (40% to 60%), for which the building cleaners with their many part-time jobs can be considered responsible.[32] Hence, the slightly stronger increase in employment in the skilled crafts B1 can be said to have primarily resulted from the employment of part-time workers in new working areas of the building cleaning trade. The revision of the Trade and Crafts Code cannot be held accountable for this development. Therefore, there is no clear indication of a positive effect on employment by the 2004 reform.[33]

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31 Sources: 2008-2012 Censuses by the Federal Office of Statistics, own calculations.

32 Own calculations based on data from the 2012 census of the skilled crafts and trades by the Federal Office of Statistics and the 2013 structure survey by the German Confederation of Skilled Crafts.

33 In his assessment for the European Commission, Rostam-Afschar could not prove positive effects on employment by the revision of the Trade and Crafts Code; see D. Rostam-Afschar: Regulatory Effects of the Amendment to the HwO in 2004 in German Craftsmanship, Study with Financial Support from the European Commission, 2015. Available at: http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8525&lang=en.

4 Effects on Prices

According to proponents of deregulation, prices are reduced as a result of increased competition combined with enhanced process innovations evoked by newly founded businesses.[34] Concerning the direct influence of regulations on market prices, however, only a literature overview by Kleiner (2006)[35] is available for some professions in the US. Kleiner's study reveals that overall, regulations positively affect the price of a service.

As for deregulation in the skilled crafts, an effect on prices is hard to assess for two reasons. On the one hand, it has to be considered that the development of prices is determined by various factors (e.g. advance payments, changing areas of work, pay rises). Effects on prices by the revised Trade and Crafts Code can therefore not be analysed in isolation. On the other hand, there are no official statistics available on the prices of products and services in the skilled crafts. The RWI Essen attempted to provide such statistics by calculating the most important price trends by means of relevant price indices and corresponding job structures.[36] Minor differences between the skilled crafts A and B1 were discovered, which, however, cannot be attributed to the revision of the Trade and Crafts Code.[37]

Alternatively, an international comparison is drawn to examine if German consumer prices develop extraordinarily. This examination is based on the development of building costs because the building industry is strongly shaped by the skilled crafts, many of those without certification requirements can be found there. Considering the annual rates of change in building costs in chosen countries (see Figure 6), building costs in Germany could be expected to be quite high due to regulations in the skilled crafts and to be lowered by the 2004 revision of the Trade of Crafts Code. Other countries without such a reform should show higher rates of change. However, neither are the building costs in Germany higher nor have the rates of change lowered since the revision. The numbers are rather completely inconsistent; a result for which other factors can be deemed responsible. Any effects by regulation or deregulation cannot be detected.

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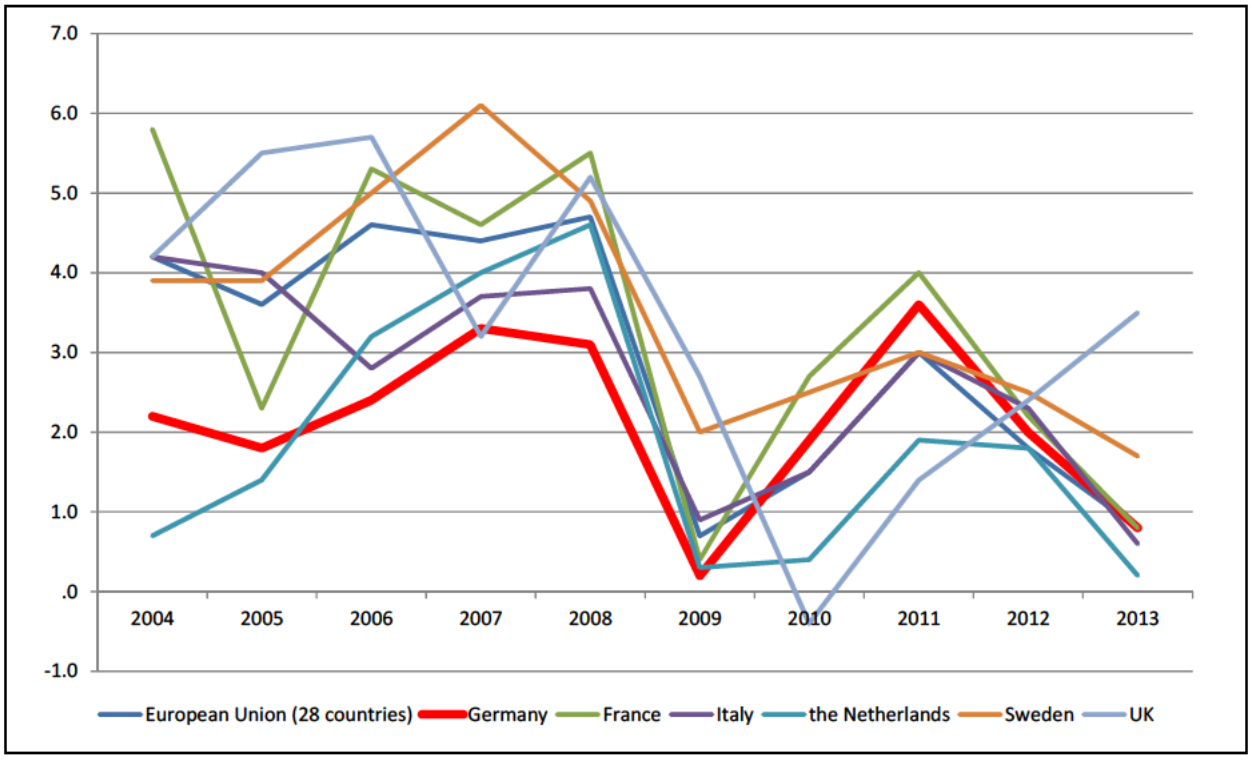
[34] Cf. European Commission (2013), op. cit. Scientific studies primarily focus on the development of wages (cf. e.g. M. Kleiner, A. Krueger: The Prevalence and Effects of Occupational Licensing, in: British Journal of Industrial Relations, Vol. 48, No. 4, 2010, pp. 676-687.) or on the development of rates of profit (cf. E. Canton, D. Ciriaci, I. Solera: The Economic Impact of Professional Services Liberalisation, in: European Economy: Economic Papers, Vol. 533, 2014.).

[35] Kleiner (2006), op. cit.

[36] Cf. RWI (2012b), op. cit., pp. 36ff.

[37] Cf. RWI (2012b), op. cit., p. 37.

Figure 6: Annual Rates of Change in Building Costs in Chosen EU Countries (in per cent)[38]



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Even if the revision resulted in an undoubtedly positive price trend for all skilled crafts B1, we should question this development. On the one hand, consumer benefit from a slight increase in prices. On the other hand, such a price advantage could result from the fact that the many new businesses in the B1 trades can compete on the market only with prices (cost leadership) and not with quality.[39] This competition can only be held because the start-ups, among them many freelancers, calculate their hourly rates differently (e.g. pensions or social insurance contributions not included, no VAT when earning less than € 17,501 p.a.). As shown in paragraph 2.3, the proprietors are often little qualified which can also influence the quality of goods and services.

This can be problematic if dealing with potentially dangerous goods that dominate many areas of the skilled crafts. To the disadvantage of consumers, this results in asymmetric quality information.[40] This could lead to high quality goods failing on the market if the customer cannot assess their quality and relies on the supplier's know-how instead.

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38 Source: Eurostat.

39 J. H. Block, K. Kohn, K. Ullrich: Notgründer setzen öfter auf den Preis, in: KfW Economic Research – Fokus Volkswirtschaft, Vol. 19, ed. by KfW Bankengruppe, Frankfurt a. M. 2013.

40 G. A. Akerlof: The Market for "Lemons": Quality Uncertainty and the Market Mechanism, in: The Quarterly Journal of Economics, Vol. 84, No. 3, 1970, pp. 488-500.

5 Formation of Human Capital

5.1 The Role of Skilled Crafts in Human Capital Formation

The opponents of deregulation fear that the function of human capital in the skilled crafts[41] is challenged.[42] In contrast, the Federal Government hoped for impulses to create new trainee positions.[43]

With its dual education system, the skilled crafts are immensely important for the German educational system as it offers vocational training beyond its needs.[44] According to a study based on the 2012 survey by the Federal Institute for Vocational Education and Training and the Federal Institute for Occupational Safety and Health, more than 60% of trained workers start jobs in other economic sectors, primarily manufacture, commerce and public service.[45] The social and professional skills acquired in dual education are very useful for other occupations. In Germany, dual education largely contributes to adolescents' overall employment which is among the best in Europe.[46]

The skilled crafts are particularly important for the German educational system as they offer career prospects to adolescents with unfortunate starting positions. The amount of trainees without lower secondary education is above average in the skilled crafts, as is the number of trainees with a migration background.[47]

In the skilled crafts, training is mainly provided by those businesses that require certification. The share of employed trainees in relation to other employees who are subject to social insurance contributions is 10.4% in the skilled crafts A as opposed to 2.9% in the skilled crafts B1 (see table 2). This difference is hardly surprising as a high participation in training was crucial for the 2004 revision to maintain certification in 41 branches. An interesting effect of the reform is the drop of training rates from 2008 to 2012[48] which has been larger in the skilled crafts B1 than in the skilled crafts

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41 Cf. K. Haverkamp, K. Müller, P. Runst, A. Gelzer: Frauen im Handwerk – Status Quo und Herausforderungen, Göttinger Handwerkswirtschaftliche Studien, Vol. 97, Duderstadt 2015, p. 73.; K. Müller, J. Thomä: Bedeutung der qualifikationsgebundenen Zugangsberechtigung im Handwerk für die Funktionsfähigkeit des dualen Ausbildungssystems, Göttinger Beiträge zur Handwerksforschung, Vol. 4, Göttingen 2015.

42 Cf. Deutscher Bundestag: Ausschussdrucksache 15(9)532 vom 04.07.2003, available at: www.buhev.de/2003/12/bmaterialien_adrs519-15_9_.pdf (last accessed 04.08.2015).

43 Cf. German Bundestag: Bundestagsdrucksache 15/1206 vom 24.06.2003, available at: http://dip21.bundestag.de/doc/btd/15/012/1501206.pdf (last accessed 04.08.2015).

44 Cf. K. Müller, J. Thomä (2015), op. cit.

45 Cf. K. Haverkamp, K. Müller, P. Runst, A. Gelzer (2015), op. cit.

46 See e.g. K. Brenke: Arbeitslosigkeit in Europa: Jugendliche sind viel stärker betroffen als Erwachsene, in: DIW Wochenbericht, Vol. 30, 2012, pp. 3-12.

47 Cf. K. Bizer, K. Lankau, K. Müller (2014), op. cit. and K. Müller, J. Thomä (2015), op. cit.

48 Data for succeeding years is not available.

A. Compared to overall economy the training rates in sector A are considerably higher which highlights the strong training performance of the skilled crafts.

Human capital formation in the skilled crafts is categorised into individual-related and business-related indicators. The first describe the individual demand of a qualification in the skilled crafts such as master craftsman's certificate and the many opportunities of further education. The latter refer to the businesses partaking in vocational training, including the number of training companies and their trainees.

Table 2: Training Rates in the Skilled Crafts and Overall Economy (Trainees Relative to Employees) 2008 to 2012[49]

	2008	2009	2010	2011	2012	Difference 2008/12
Skilled Crafts A	12.7%	12.2%	11.5%	10.8%	10.4%	-18.2%
Skilled Crafts B1	4.1%	3.8%	3.4%	3.1%	2.9%	-27.9%
Overall Economy	5.8%	5.7%	5.4%	5.1%	4.9%	-16.0%

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number of trainees (industrially technical) in relation to employees subject to social insurance contributions

5.2 Individual-related Indicators

Firstly, we will evaluate individual-related indicators with a focus on certified craftsmen. This certificate is particularly interesting with regard to the revised Trade and Crafts Code because it allows for business formations in the skilled crafts that require certification and because a permission for training is obtained at the same time.

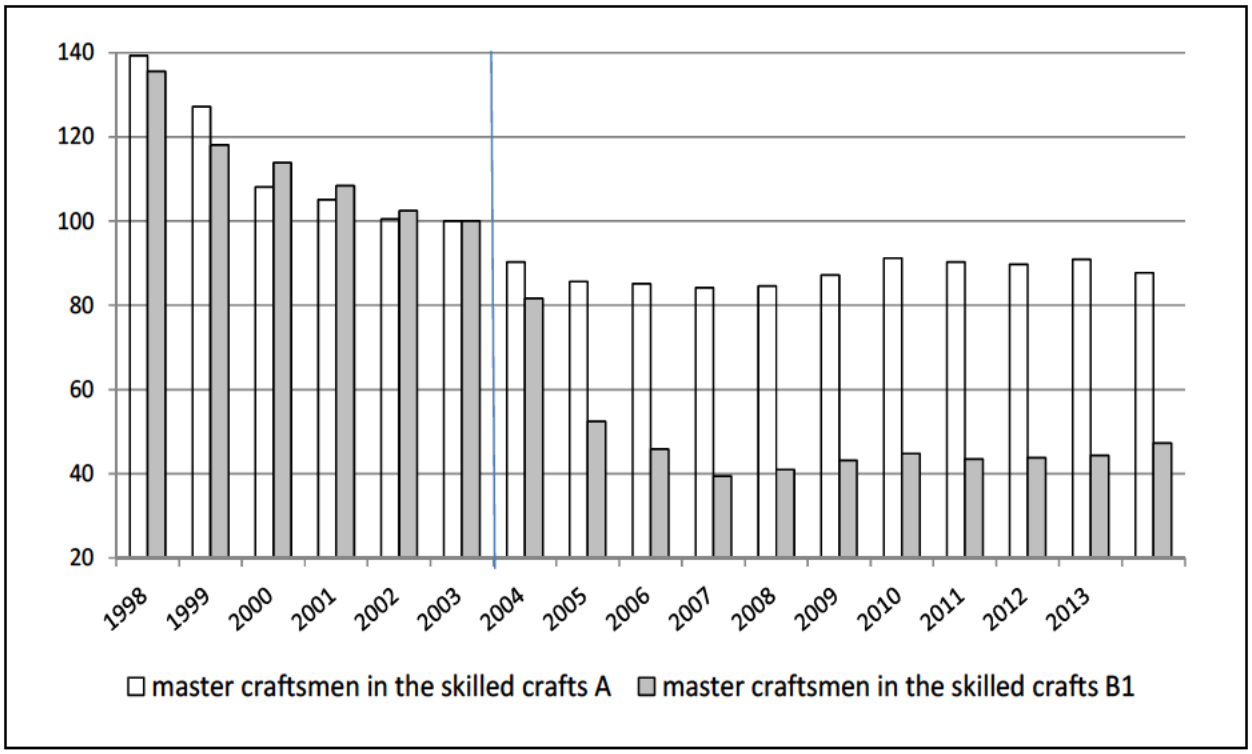
Figure 7 shows that the number of master craftsman's examinations clearly declined in the skilled crafts B1. Assuming the year before the reform (2003) would have an index value of 100, about 40 master craftsman's examinations are completed in the skilled crafts B1 nowadays.[50] A decline could be observed before, primarily for demographic reasons, but the immense drop after 2003 can clearly be connected with the reform. The skilled crafts A also show a decline which is distinctly smaller (value almost 90) and probably due to the mitigations mentioned above. Since around 2007, the number of examinations stabilised which is surely due to the numerous campaigns and the improvement of the Federal Training Assistant Act for master craftsmen. The difference prompted by the reform remained constant. In 2014, 21,388 master craftsman's examinations were successfully completed in the

[49] Sources: Federal Office of Statistics, Federal Employment Agency, own calculations.

[50] The decrease differed immensely for the B1 trades. While the number of master craftsman's examinations remained constant in smaller trades it declined for floor tilers from 557 (2003) to 104 (2014) and therefore by 81%.

skilled crafts A (95.4% of all examinations in the sector) and 1,003 examinations in the skilled crafts B (4.5%).[51]

Figure 7: Successful Master Craftsman's Examinations in the Skilled Crafts A and B1 (2003 = 100)[52]



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5.3 Business-related Indicators

As shown in paragraph 2.3 (table 1), more and more craftsmen, especially in the skilled crafts B1, go into business for themselves without qualification. This trend corresponds to the decreased number of certified master craftsmen. These businesses do not have a licence for training which is likely to have long-term effects on training offers in the skilled crafts.

The following analysis of the business-related indicators will concentrate on training companies and the number of new trainees. It is important to note that the companies have to provide training positions; whether they are filled or not, however, depends on the number of adolescents and on their interest in starting vocational training in the skilled crafts. Over the past years, these numbers have been declining which can be ascribed to demographic factors, higher educational qualifications and

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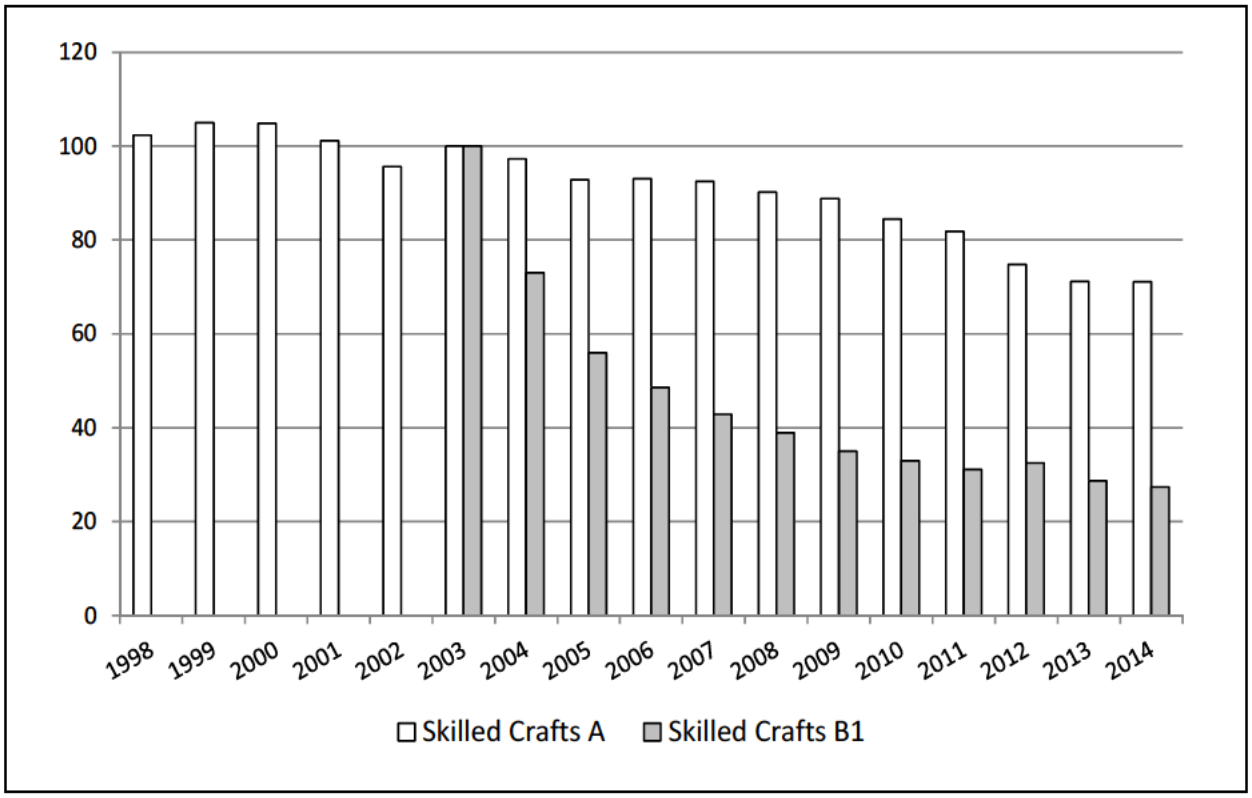
51 To this figure, 37 exams in a trade B2 can be added.

52 Author's note: No data available for industrial supervisors for some years. Sources: German Confederation of Skilled Crafts, own calculations.

the image of the skilled crafts.[53] This effect has to be taken into account when considering the declining offers of training positions.

Only 3.7% of B1 businesses offer vocational training as opposed to 22.8% of training companies in the skilled crafts A. Compared to 2003, the number of training companies has decreased for both branches (32, or 13% in 2003).[54] If this year equals 100, the strong decline in the skilled crafts B1 becomes obvious (see figure 8). In 2014, the corresponding value was 27 versus 71 in the skilled crafts A.

Figure 8: Changing Rate of Training Companies in the Skilled Crafts A and B1 from 1998 to 2014 (2003 = 100)[55]



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Rate of training companies: number of companies and trainees in all businesses

It could be argued that the number of training companies might have dropped as a percentage but due to the boom in business formations in the skilled crafts B1 their absolute number has risen from 74,940 (2003) to 231,906 (2014).[56] The absolute

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53 Cf. Federal Institute for Vocational Education and Training: Datenreport zum Berufsbildungsbericht, Bonn 2013, p. 75.

54 Newly founded businesses rarely offer vocational training; cf. K. Müller (2014), op. cit., pp. 95ff.

55 Sources: German Confederation of Skilled Crafts, own calculations.

56 This analysis is again based on data taken from the registers of the Chambers of Skilled Crafts; cf. footnote 10.

decline in training companies has been less but still distinctive with a drop of 15% from 9,559 in 2003 to 8,136 in 2014.

One reason for this decline might be the large number of freelance one-man businesses (see paragraph 2.3) that do not offer training. Furthermore, most proprietors in the skilled crafts B1 do not have a licence to train which is usually acquired with the master craftsman's certificate.[57]

The number of new trainees, too, has been declining in both sectors since 2003 (see figure 9), and slightly more in the skilled crafts B1. If the year 2003 equals 100, the skilled crafts B1 only showed a value of 71 in 2014 as opposed to 81 in the skilled crafts A.[58] The gap between A and B seems to have been widening over the past years.

The difference had been larger if the skilled crafts requiring certification did not contain branches that have particularly suffered from adolescents' decreasing interest in training. The number of new trainees in hairdressing dropped from 15,927 (2006) to 10,731 (2014) and from 5,995 to 2,690 in baking. With 5,196 trainees less, the absolute decline in hairdressing is twice as high as in all other B1 branches (2,079 less).

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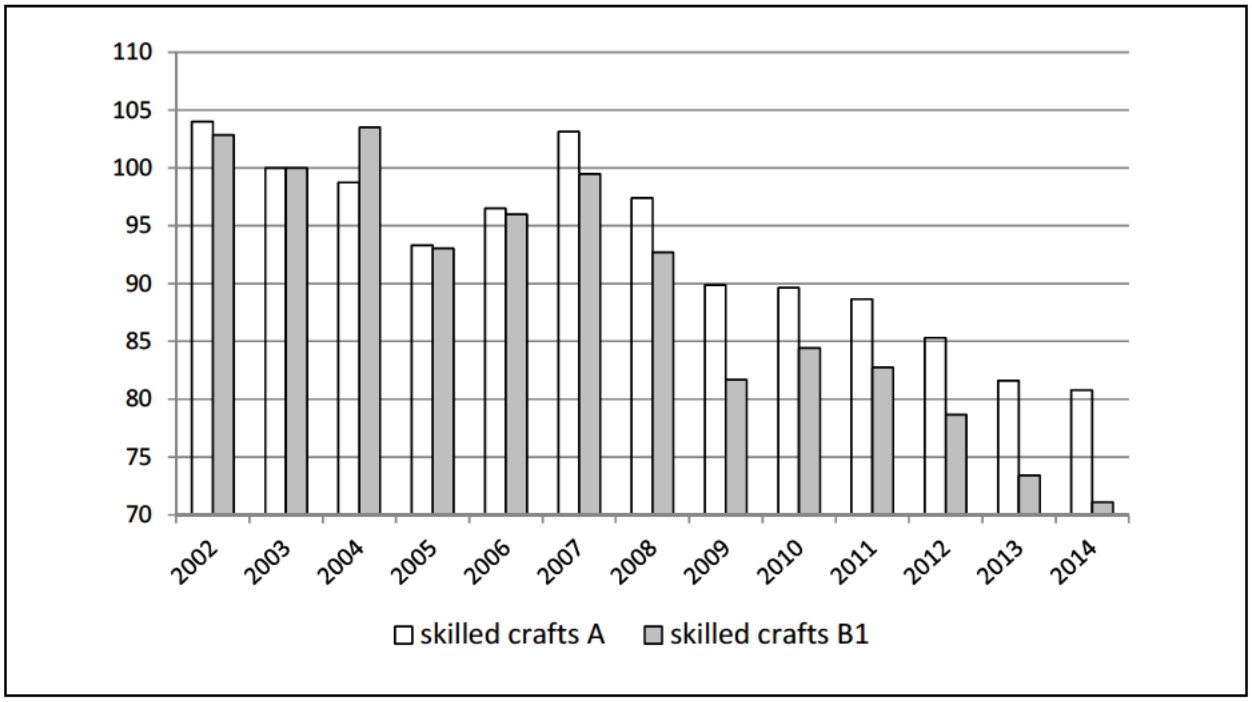
[57] The suspension of the act of trainer suitability until 31.07.2009 temporarily relativised this aspect which, however, has made an even stronger effect since.

[58] It also has to be considered that the number of apprentices in each training company has risen in the skilled crafts A but receded in the skilled crafts B1.

Figure 9: Number of Trainees in the Skilled Crafts A and B1 and number of School-leavers from 2002 to 2013/2014 (2003 = 100)[59]



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As can be observed, the differences among the business-related indicators are smaller when compared to the individual-related indicator "master craftsman's certificate". This is probably because vocational training in the skilled crafts B1 is mainly offered by those companies that were on the market before 2004. The companies founded after the repeal of certification constitute the majority of B1 businesses but rarely offer training. This is shown by a special evaluation of data by the Chamber of Skilled Crafts for Munich and Upper Bavaria (see table 3). By the end of 2014, about 85% of businesses in sector B1 were founded in 2004 and after. They only constitute about 40% of training companies and only a third of all trainees are trained there. In the skilled crafts A the difference between the overall number of businesses founded in 2004 and after and those that offer vocational training is smaller.

Considering that about 4-5% of businesses founded before 2004 leave the market (only 3-4% in the skilled crafts A), it is possible that, especially in the branches without qualification requirements, the leaving training companies cannot be adequately replaced by businesses founded in 2004 and after. Increasing differences between the skilled crafts A and B1 as depicted in figure 9 are hinting at this effect.

59 Sources: German Confederation of Skilled Crafts, own calculations.

Table 3: Companies, Training Companies and Training Contracts in the Skilled Crafts A and B1, Listing Companies Founded before 2004, in 2004 and after (2014)[60]

	Companies 31.12.2014	Training Companies New Contracts Total	Trainees 2014 New Contracts Total	Companies 31.12.2014	Training Companies New Contracts %	Trainees 2014 New Contracts %
Skilled Crafts A						
Business Formations before 2004	23,457	3,316	6,109	60.5%	66.7%	70.1%
Business Formations in 2004 and after	15,330	1,657	2,600	39.5%	33.3%	29.9%
Total	**38,787**	**4,973**	**8,709**	***100.0%***	***100.0%***	***100.0%***
Skilled Crafts B1						
Business Formations before 2004	3,554	202	309	15.2%	59.8%	65.5%
Business Formations in 2004 and after	19,837	136	163	84.8%	40.2%	34.5%
Total	**23,391**	**338**	**472**	***100.0%***	***100.0%***	***100.0%***

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Overall, human capital formation that is so important for national economy is affected by the revision of the Trade and Crafts Code. The individual-related indicator of master craftsman's examinations showed this development immediately after the reform. As for business-related indicators this could become a problem in the long term because, for the time being, training in the skilled crafts B1 is mainly provided by businesses founded before 2004. There would probably be a bigger difference compared to the skilled crafts A if many businesses without a training licence were not on the market although certification is required in their branches and if they did not suffer so strongly from the change of adolescents' training interests.

[60] Sources: special evaluation of the register of qualified craftsmen by the Chamber of Skilled Crafts for Munich and Upper Bavaria from 03.07.2015, own calculations.

6 Conclusion

This paper examines the effects of the 2004 revision of the Trade and Crafts Code on the German market. 54 of the 95 branches in the skilled crafts were dispensed from registration, with the result that a master craftsman's examination is no longer required for business formation. The present study is relevant because all regulated professions in the EU countries are put to the test by the European Commission, including those in the German skilled crafts.

It was difficult to find an appropriate control group for this study. The skilled crafts A are only partially suitable for this purpose because of two main reasons. Firstly, following the revision, career entry was facilitated in these skilled crafts with considerable consequences. Secondly, all branches of the skilled crafts have been confronted with external influences since 2004 that affected the skilled crafts A and B1 in various ways. For instance, the increase in employed building cleaners without certification requirements is due to the employment of part-time workers in large-scale enterprises aiming at expansion. The formation of businesses in the skilled crafts B1 was immensely enhanced by people migrating to Germany from Central and Eastern European Countries. A change of adolescents' interests, however, leads to a decrease of training positions in some skilled crafts A (especially hairdressers, bakers).

Overall, we can conclude that the proponents' high hopes were not fulfilled.[61] Neither has there been an expansion of employees in the skilled crafts nor can any impulses for training positions be observed. The predicted boom in business formations did indeed happen but the new businesses are mostly relatively small and only stay on the market for a short period of time. Their proprietors are comparatively low-skilled and many own freelance one-man businesses and there are no findings on innovative work by these companies. It can be assumed that these enterprises attempt at surviving on the market by cost leadership only. This could affect innovations by other companies if they are not successful at removing from price competition.

These results render doubtful any positive effects of deregulation on those skilled crafts that require certification. Regarding the "Varieties of Capitalism"[62], it cannot be recommended to alter the established structure of the German skilled crafts economy further by liberating all its branches from certification.

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[61] Deutscher Bundestag (2003) op. cit..

[62] P. Hall, D. Soskice: Varieties of Capitalism: The Institutional Foundations of Comparative Advantage, Oxford 2001, Oxford University Press.

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