

Aspects of Danish Business History since 1970 – a short introduction

BY MOGENS ROSTGAARD NISSEN

In this volume of Erhvervshistorisk Årbog, Danish Yearbook of Business History, some of the results of a large project are presented. This introduction present mainly the historical components of the project, based on studies of contemporarily sources dating back to ca. 1970. The volume consists of four articles that refer to four different industries: The textile industry, the furniture industry, the shipbuilding and marine equipment industry, and finally the shipbuilding industry and the formation of spin-off companies instead. In this project we have chosen to use the simple "smiley"-model of the value-chain. The project, called GONE, has uncovered how these industries have changed value-chain strategies, which in turn has had a major impact on those employed in these industries and for Danish society as a whole. It is indisputable that the number of persons employed in the actual manufacturing jobs has decreased very significantly in Denmark since 1970. Instead more people are working in design, purchasing, sales and branding.

Introduction

In a large-scale advertising campaign, the trade association Dansk Produktion has recently attempted to promote the "Innovative Denmark". Under the motto "*Knowledge + production = Welfare*" they are trying to make it clear that in 2012 there were still about 350,000 manufacturing jobs in Denmark. On their website it was formulated this way:¹

It is the interplay between research and production that create value for society, and if you move production abroad, research, knowledge and development will move as well. Danish production accounts for half of the country's revenues, so future growth and prosperity depends on a Denmark, which is not only innovative thinking, but also capable of going new ways.

Provinsindustriens Arbejdsgiverforening (the Provincial Industry Employers' Association) is the organization behind Dansk Produktion. It represents the interests of small-and medium-sized manufacturing companies outside the capital region, and the CEOs of Grundfos and Danfoss serve as board members along with six CEO's from other manufacturing companies.² It is therefore less surprising that it is precisely this organization that is running the campaign. On the other hand it is remarkable that the organization so clearly emphasizes the interaction between research and production for value creation, and inextricably links the two. The campaign demonstrates how Danish manufacturing companies see a strong need to mark that industrial production still takes place in Denmark, which again generates value for the Danish society.

The content and timing of Dansk Produktion's campaign fits well with this presentation of the results of the interdisciplinary research project Global Operations Network – GONE. The project

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started in 2009 and was funded by The Danish Council for Strategic Research.³ The project has focused on how the Danish production companies have tackled the challenge of economic globalization in the period since the early 1970's.

In this volume of Erhvervshistorisk Årbog some of the results of the GONE-project are presented. This article present mainly the historical components of the project, based on studies of contemporarily sources dating back to ca. 1970. The main sources are public such as trade magazines, newspaper articles etc., which forms the basis for the analysis. To a limited extent, private sources from corporate archives such as internal correspondence, minutes of board meetings etc. have been used, but here archival access remains somewhat restricted. In addition, we have made interviews with key players in the industry associations and some CEO's at various manufacturing companies from 2009 to 2011. Furthermore we have used the research literature, mainly published by business economists, on specific industries and companies in the four selected industries. The focus of the studies is on an industrial level, but cases from individual companies are used to illustrate and nuance the analysis of the overall development of the industry.

This volume consists of four articles that refer to four different industries. René Taudal Poulsen and Kristoffer Jensen have written the article on the textile industry, and Lars Hedeman and Mogens Rostgaard Nissen are the authors of the article on the furniture industry. René Taudal Poulsen has also written the article on shipbuilding and marine equipment industry. Finally, Thomas Roslyng Olesen has written the article on the importance of the closure of the shipbuilding industry and the formation of spin-off companies instead. This is concerning the closure of Danyard in Frederikshavn in 1999. This article is based mainly on the results of his doctoral thesis, which was written as part of the GONE project.⁴ Originally it was planned that there should have been an article concerning the telecom industry, but unfortunately we had to leave this very interesting part out.

The GONE-project

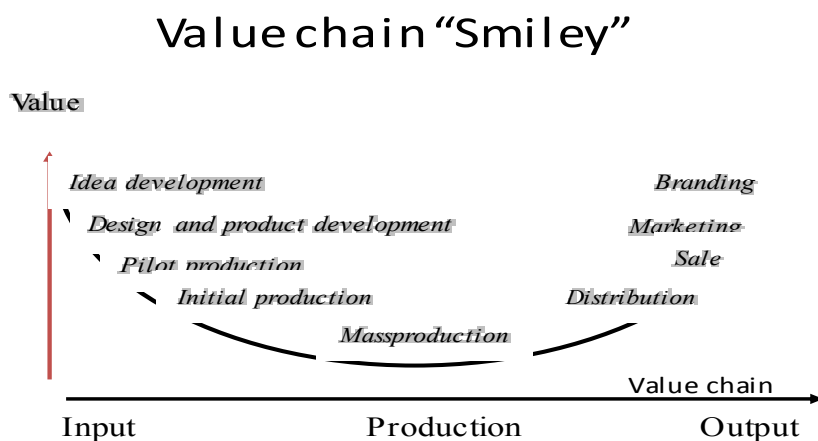
When we started the project four years ago our aim was to study strategies of small and medium sized manufacturing companies in Denmark and analyze how companies in four different industries – textile and clothing industry, furniture industry, telecom industry and the marine equipment industry – had responded to the forces of economic globalization since 1970. Our focus has been on the different value-chain-strategies employed by Danish manufacturing companies since the early 1970's. A key research question has been whether Danish companies have chosen to move some or all production activities out of Denmark. To the extent that this relocation of activities has taken place, we examine if production has been handed over to independent contractors or whether relocation involved the establishment of foreign subsidiaries (so-called *offshoring*). Another key issue has been to examine the extent to which Danish manufacturing companies have tried to rationalize and automate production processes within Denmark and thus minimize the effect of high labor costs and we have tried to assess to which extent this strategy has proven viable.

The project name GONE is an abbreviation for *Global Operations Networks*, but the name also indicates some kind of doomsday prophecy that industrial production in Denmark will soon be a thing of the past. The overarching question is if high cost – especially the high Danish wages – has made or will make it impossible to compete with low-wage countries in Eastern Europe, China and elsewhere in the world.

In this project we have chosen to use the simple "smiley"-model of the value-chain. On the horizontal line, the value chain flows from the left to the right, starting with input activities such as idea and product development, and going over mass production to output activities such as distribution, marketing and branding. The vertical line of the smiley shows the level of value creation for the individual activities within the value chain. According to the smiley-model

upstream activities such as idea and product development and design – add high value to the product. Downstream activities, at the other end of the value chain, also add high value to the product, and include such activities as marketing and branding. On the other hand, mass production – the midstream activities – creates less value added value. The underlying understanding is that mass production of goods, which has only a modest value-creating effect, will be relocated from Denmark to countries with low labor costs, while the more value added activities remain in Denmark. The underlying notion is that Danish labor is highly qualified to develop and designing products and also very good at selling and branding. For these reasons Danish companies choose to keep up- and downstream activities here, while other activities gradually are moved abroad. Following this view, there are few more important myths that one have to deal with. The first is that it is relatively straightforward to move production to where it can be made cheaper. However, some Danish companies have proved that to be more problematic than it seems which is illustrated in the articles in this volume. Some observers have also argued that it will be an advantage for Danish society, if the labor-intensive production is moved as long as the most value-added parts are kept in Denmark. The implicit implication of this view is that Danes are unique in designing and developing new products and that this is something that will continue in the future. Implicitly this means that production and product development can be kept separate, and that it is possible to maintain product development in Denmark even though production has moved to, for example, Eastern Europe or the Far East. Finally, in the public debate it has not been a topic of interest how the production transfer has taken place, whether it has happened to subcontractors or whether Danish manufactures have set up own production facilities abroad.

Figure 1: Activities in the value chain “smiley”



It is these simplistic perceptions that Dansk Produktion attacks, arguing that production can readily be separated from product development. Ultimately, such separation will undermine the basis of the remaining activities in Denmark. Within GONE, we have examined the same stereotypes in more details and we have chosen to focus on four industries to analyze some of the main development trends in the period. Our first industry study concerned the textile and clothing industry, which was exposed to international competition at an early stage. Here both products and production processes are generally relatively basic and have relatively low capital intensity. For the same reasons entry

barriers are relatively low in this business, notably also for businesses from developing countries. For several decades textile and clothing production in Western Europe and the United States was protected by the so-called Multi-Fiber-Agreement, but Danish manufacturing companies already relocated activities abroad in the 1970's. In the beginning they mainly chose to relocate to southern Europe, later to Eastern Europe and Asia and in the years since the millennium, virtually the entire Danish textile production has moved abroad.⁵

Our second study concerns the furniture industry, which has generally been more capital-intensive than the textile industry, but an essential part of the furniture production has also been performed by skilled craftsmen. In the 1980's and 1990's, the Danish furniture exports boomed, but production remained almost exclusively in Denmark until the latter half of the 1990's when some of the simple production was moved to Eastern Europe and the Baltic countries. After the millennium, a relocation of furniture production has occurred, mainly to China.⁶

Our third study concerns the shipbuilding and marine equipment industries. Since the early 1980's all the main the Danish shipyards – like shipyards in other European countries – have closed down its activities, and virtually all new construction of ships are carried out in shipyards in the Far East. The marine equipment industry, on the other hand, has to some extent been characterized by the persistence of production in Denmark. The marine equipment industry supplies the shipbuilding industry, and includes companies such as Viking Safe-Marine, Hempel and MAN Diesel. In industry statistics, it is not defined as an independent industry, because the only thing that binds these suppliers together is their role as subcontractors to the shipyards. Nevertheless the particular development of the marine equipment has made it a relevant case for the GONE study. This despite the fact that business analysts over several decades have predicted the closure of the Danish maritime subcontractors, several major companies have endured. The marine equipment suppliers have thus fared much better than Danish shipyards.⁷

In comparison with the other GONE cases, the telecom industry, which we originally planned to study, is a relatively new industry. Initially, it produced relatively complex products and had relatively complex production process as well, which required well-trained labor. As the production in this industry was increasingly standardized, it was quickly moved away from Denmark. In 2013 virtually no Danish production remains in the telecom industry.⁸ Unfortunately it is not possible to complete an analysis of telecom industry, and therefore this interesting part regrettably must be omitted.

The relevance of the project

In doing a Google search on the word *outsourcing* about 130,000 hits appear. A similar search on the newspaper database "Infomedia", identifies around 18,000 articles in the Danish newspapers and journals. In December 2011 alone, 129 articles containing the word outsourcing were published in Denmark.⁹ This shows how the word *outsourcing* has gained a foothold in the Danish language. But what does it really mean? If you ask *Den Store Danske Encyklopædi* for advice you get to know that *outsourcing* means that a company separates a function or activity to a subcontractor to reduce costs. This definition however misses some key aspects. Clearly the Danish newspaper articles demonstrate that *outsourcing* has become a very value-laden term which is often directly related another value-laden word, *globalization*.

Over the years different terms has been used covering Danish manufactures moving production abroad. During the 1990's, it was especially terms like "udflytning" (moving out) and "udflugning" (outflagging) that was used but since the millennium the word "outsourcing" increasingly has been used. On the other hand one can rightly point out that the concept of "offshoring" has hardly been used in Danish newspapers, while in recent years some researcher have written several articles in professional journals and trade magazines related to *offshoring*. The

significance of this is that the Danish newspapers almost exclusively have dealt with whether industrial production has been moved away from Denmark or not, but hardly how this relocation has taken place. As will be shown in the article on the marine equipment industry it is an important point that in this industry for a very substantially part of production have been offshored, and that this has had an impact on the continuation of production in Denmark.¹⁰

When making an analysis on the Danish newspaper articles that are registered in “Infomedia” since the early 1990’s, it is striking that it took many years before the papers began taking an interest in the relocation of production abroad. During the 1990’s there were very few articles on the subject, and there was typically a positive bias in the description of how Danish manufactures took advantage of opportunities to make some of the simple production activities in countries with low labor costs. This move was clearly seen as a prerequisite for the survival of Danish manufacturing companies. Focus through the decade was the link between the relocation of production and Danish manufactures exports. An example of this is an article in Jyllands Posten from 1997, when Danfoss’ relocation of production to Eastern Europe was described. The article tells how much of Danfoss' production growth occurred outside Denmark's borders and that it was both due to new export markets but also because of reduced production costs. CEO of Danfoss, Jørgen Mads Clausen said, among other things:¹¹

The facts are that the relocation of labor-intensive productions will generate new jobs at home. They will be of a different nature. Had we not dared to implement relocation to other countries with significantly lower production and labor costs, it would have been a matter of time before we had been forced to stop because we simply would not be able to produce at competitive prices here in Denmark. For us today it is natural to be anywhere on earth. We can build our factories where there is a market for our products and we can produce them for the prices that the market can take.

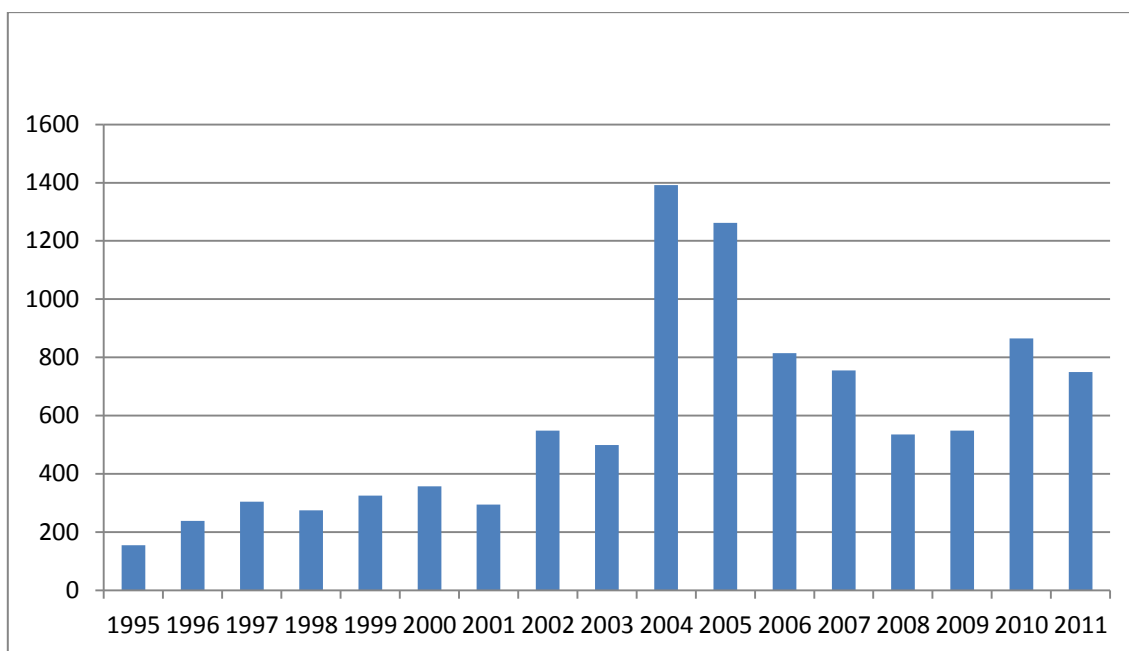
That is a strong indication that the production which Danish manufactures placed abroad was essential for future growth in Denmark.

This view was followed later in the year 1997 when Jyllands Posten could tell that Danfoss moved production back, and the number of employees in Denmark was 8,700, which was the highest number ever.¹² In the article it was stated that Jørgen Mads Clausen's globalization strategy with the relocation of production to the company’s own production facilities abroad did not cause a decreasing number jobs in Denmark, which the unions had feared. On the contrary, this strategy increased the workforce in Denmark.

Furthermore, it is characteristic that Danish newspapers in the 1990’s perceived Eastern Europe and the Baltic States as a new market for Danish products, while almost no articles considered the possibilities of production relocation to this area. There is some truth to this focus, as the exports to East Germany of Danish pinewood furniture boomed in this period, while only a few furniture manufacturers relocated some of their production.

The main point is, however, that during the 1990’s only few articles were written in Danish newspapers about Danish manufactures’ relocation of production abroad. In the figure shown below is carried out a search in the newspaper database “Infomedia” on each of the search terms "udflytning" (moving abroad), "udflagning" (outflagging), "outsourcing" and "offshoring" and the figure clearly shows that it was not before the beginning of the new millennium that the relocation of production was a topic, which the Danish newspapers began writing about. The displayed number should be taken with some caution, since they also include figures on the relocation of IT-jobs, reflagging of Danish ships etc. Hence the actual number of articles on relocation of Danish manufacturing jobs is lower, but this fact does not change the observed trend in the number of articles.

Figure 1: Number of articles written in Danish newspapers in the period 1995-2011 concerning Danish manufactures relocation of production from Denmark



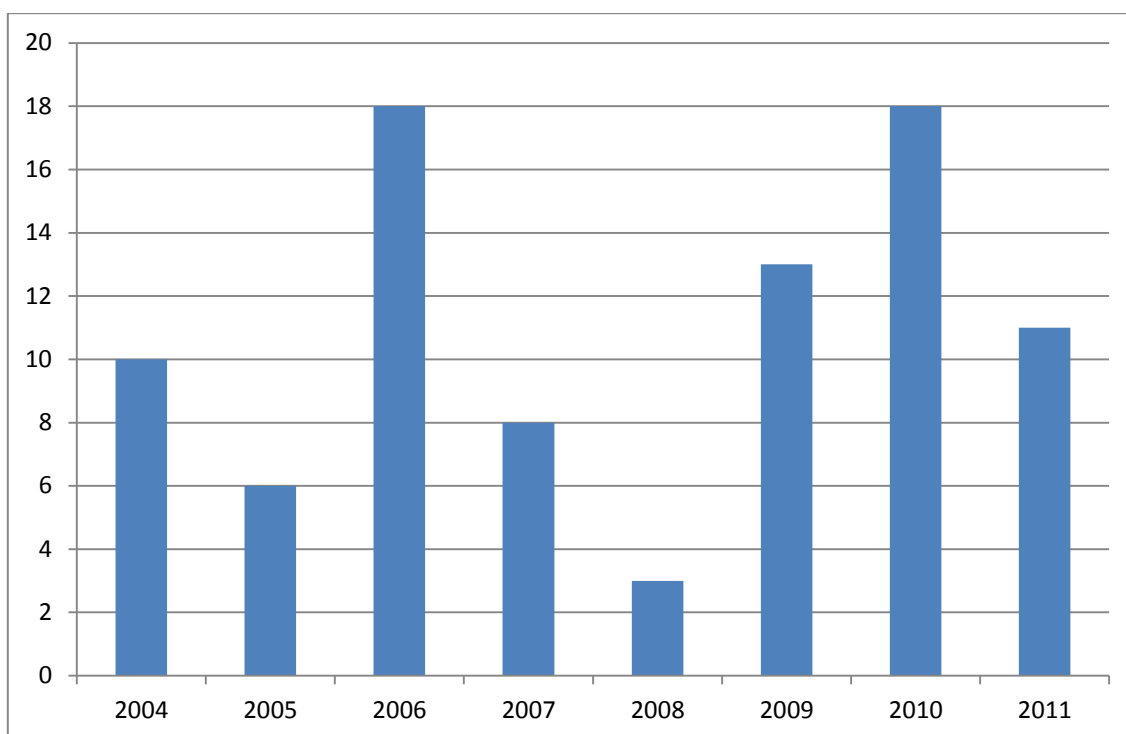
Source: Infomedia.

As shown there was a very marked increase in the number of articles from 2003 to 2004. At the same time, there is an obvious change in the content of the articles. Until that time, there were a bias in how the newspapers described the impact of relocation of production, which was seen as a prerequisite for the Danish manufactures' survival and growth. But after this time, there were an increasing number of articles that problematized the consequences of production relocation. This change in perception did not happen overnight, but still the change happened rather suddenly. Trade unions increasingly pointed out the negative consequences of the transfer of production for employment in Denmark, especially for industrial employment. In April 2003 the unions' journal A4 published a very critical article, which first highlighted that many Danish workers were fired as a result of the transfer of production. At the same time little was done to retrain laid-off workers.¹³ Already in the teaser, it was underlined that *"Mass layoffs happens every day at Danish workplaces, and there is no prospect of improvement"* after which it was pointed out that companies like Dansk Eternitfabrik, Arla Foods, Holmegaard Glasfabrik, LEGO, Rockwool and Egetæpper had fired employees following the relocation of production. Of course the article can be seen as a political contribution because LO had an interest in telling that the right-winged government failed to launch initiatives to retrain laid-off workers. But other magazines also wrote articles about the negative consequences of relocation of production. For instance, in October 2003, Erhvervsbladet reported that *"Fyn has several industrial and manufacturing companies and hence the island is strongly affected when an increasing share of the production is sent out of the country."*¹⁴ Other articles with a similar focus on the social and regional consequences of the production transfer could be mentioned, and notably in 2004 and 2005 Dagbladet Arbejderen¹⁵ brought a series of articles about the very negative consequences of relocation of production.¹⁶ It is doubtful whether these critical articles in this newspaper changed public perceptions on the topic, but it can at least be taken as an expression of the political groups on the political left was alarmed.

Another possible reason why the consequences of outsourcing became increasingly problematized at this time may be that several groups of employees were affected by it. This included workers with short educations as well as highly educated employees. Where the previous focus had been on unskilled workers, especially within the textile industry, then the international economic competition now also hit jobs in various service sectors and in the IT-industry.¹⁷ Thus, it also hit engineers, sales personnel and skilled workers. These groups were better prepared to express their views than the unskilled dressmakers. At the same time, many more Danes than before had to anticipate that in the future outsourcing might affect them, even though they had a technical education or were employed in service jobs.

Thus, it is reasonable to conclude that a major shift in public perceptions on the relocation of the Danish production took place in the first years of the new millennium. At the same time the content in many newspaper articles shifted and a very critical view on the national, regional and social consequences of outsourcing were expressed. Since 2006 a fairly constant number of articles on outsourcing have appeared. There is thus no increase in the number of articles as a result of the financial crisis of 2008. In numerous articles, it is noted that unemployment has increased considerably since the crisis began, and in many articles, it is noted how many people have been fired as a result of production being moved abroad. In most articles, a sort of basic premise is that the outsourcing process is inevitable, and one which Danish manufactures and workers have to deal with. For manufacturing companies this can be done through rationalization of production, through acquisition of robotics or the like. For employees, it is especially through education that one must protect oneself against the consequences of outsourcing and exploit the opportunities of economic globalization.

Figure 2: Articles on offshoring 2004-2011.



Source: Infomedia.

As mentioned it was relatively late that the Danish newspapers began to relate to how the relocation of production has taken place. The question remained: Whether its activities were transferred to foreign subcontractors through outsourcing or whether offshoring to the Danish companies' foreign subsidiaries and/or to their own production sites was employed. The first newspaper article about offshoring was written in 2004, and overall it is written less than 20 articles annually on the subject in the Danish newspapers. In most of these articles experts in the field, especially from CIP, CBS and University of Southern Denmark have given their opinion. Researchers Torben Pedersen, John Johansen, Jan Arlbjørn and others have also written several articles in journals such as *Ingeniøren*, *DI Insight* and *SCM* on offshoring and outsourcing.¹⁸ Still, the significance of this difference in production relocation has not been spread to other than a small group of researchers and strategic decision makers in businesses and industry organizations.

The results of the GONE-project¹⁹

It was an important goal of the GONE-project to map how small and medium-sized Danish manufactures have organized and implemented the individual value chain activities over the past three-four decades. In the project we have analyzed and identified the factors behind the developments in various industry studies. We have also assessed the impact of this on Danish businesses and Danish society in general.

Based on industry analysis, there are some factors that obviously have had an impact on the choices of value-chain strategies. It is clear that the factors are related and therefore should not be seen as mutually exclusive, but the following are lined up separately to make the analysis clearer. The order is not hierarchical and should not be taken as an expression of which factors that have had the greatest impact on development.

Market conditions and consumer patterns

A first factor that has had a major impact on the value-chain strategies is the market conditions and consumer patterns. It is especially important to distinguish between productions in business-to-business – for example, as a subcontractor – and production of consumer goods. Of the surveyed industries the furniture and the textile and clothing industries to a very large degree – but not exclusively – have produce to private consumers, while shipyards and the marine equipment industry almost exclusively produces business-to-business. It has been crucial to the strategies chosen in the analyzed industries.

In the 1970's and 1980's Danish textile and clothing companies were generally very production oriented, employing integrated value chain strategies with almost the entire production process in-house. Since then they have developed more disintegrated strategies, where only the design and product development is implemented in Denmark, while the entire production is done by foreign subcontractors.²⁰ The development in the part of the furniture industry that has produced for private consumers has been very similar to the development of the textile and clothing industry.²¹ But in this case the change happened later, after the turn of the millennium, and some production of furniture still remains in Denmark. Changing consumer patterns have been instrumental in that Denmark continues to have a relatively large production of flat-packed furniture and some production of handicrafts produced design furniture, while the production of relatively expensive non-designer furniture almost has disappeared from Denmark. For both the furniture and textile industries is true that increased consumer demand for many different types and regular purchases of, respectively, new clothes and new furniture has made it difficult for Danish companies to automate production processes. Instead, a very large proportion of production has been outsourced to foreign subcontractors to maintain production flexibility, which is essential in these fast-fashion-oriented industries.

In recent decades some very large and leading retail chains that have evolved in the furniture and the textile and clothing industries, which dominate these markets. Today retail chains have significant importance for manufacturing companies in these two industries. IKEA and other dominant chains have been of major importance for the development of furniture sales in Western Europe and the U.S., and it has again been crucial for Danish furniture manufacturers. IKEA purchases a significant part of Tvillum's furniture production, which thus must be prepared to comply with IKEA's requirements for quality and design. That it can be a dangerous path shows the example of Bodilsen, which in 2008 had to close a factory that exclusively was supplying furniture for IKEA, when IKEA chose another supplier instead.²² Also in the textile and clothing industry some large retail chains have evolved with Hennes & Mauritz as the most trendsetting, but the largest Danish textile and clothing companies, Bestseller and IC Company, have chosen to focus on own brands and own retail outlets.²³

Based on the industries that we have studied in the project is a clear pattern that companies producing business-to-business have chosen some other value-chain strategies than companies producing to private consumers. In the marine equipment industry almost all companies has chosen to maintain both product development and production in-house. However, it has not been as decisive whether production takes place in Denmark or abroad. The important thing is that these companies often continue to control production. This is due to several things: 1) The marine equipment sub-contractors have chosen to place both production and product development close to their main markets, and as the majority of the shipbuilding industry today is in the Far East manufacturers such as Hempel, Viking Life-Saving Equipment, Novenco and Alfa Laval Aalborg have chosen to establish its own production facilities in the Far East; 2) The production sites in the Far East has been necessary to enter the respective markets because most countries in the Far East protect domestic production in various ways; 3) Of course, the relocation of production is also made to reduce production costs, especially labor costs; and 4) It is highly specialized products with high technical requirements to the functional quality. In order to maintain and develop technological leadership it has clearly been important for many of these subcontractors to maintain production in-house. This also applies to a company like Fibertex producing synthetic textiles for the car industry and for diapers and therefore in reality is a textile manufacturer. Fibertex has moved much of its production to its own production facilities in Malaysia and the Czech Republic; partly to get close to their main markets, and partly to minimize production costs without losing control of production and production development.²⁴

In the shipbuilding industry, only the Odense Steel Ship Yard has acquired shipyards abroad, while this has not been a realistic option for the other Danish yards. Several other smaller yards used in the 1990's Eastern European and Baltic shipyards as suppliers of parts to the ships, which were then transported to Denmark and assembled at the Danish yards, but the extent of this form of outsourcing was modest. Odense Steel Ship Yard took over a shipyard in Estonia in 1994, a shipyard in Lithuania in 1997 and a shipyard in Stralsund in Germany in 1998. The following years these yards were used to build the entire ship sections that were subsequently shipped to Odense, where they were assembled and mounted to the finished vessels. In this way costs were minimized, since a large part of the labor-intensive production took place at its own foreign shipyards where wages were considerably lower than in Denmark.²⁵

Political conditions

Political conditions are another factor that has had a great impact on Danish manufactures value-chain strategies. For several decades, the textile and clothing industry tried to protect themselves against competition from low-wage countries in Asia via the so-called Multi-Fiber-Agreement. At the same time this industry was the first to outsource production and has outsourced production

most comprehensively. The Multi-Fiber-Agreement led to increasing conflicts among the companies that produced clothes, and companies that specialized in designing and selling clothes, which had been produced cheaply abroad. The fall of the Berlin Wall in 1989 opened the Eastern Europe as a sourcing destination to Danish manufacturing companies. In this way the Multi-Fiber-Agreement was partly undermined. One can argue that the agreement helped to maintain a textile production in Denmark which was not competitive and production was quickly outsourced when the agreement lapsed.²⁶

The shipbuilding industry has globally been very influenced by government subsidies, which is also the case in Denmark. Throughout the 1970's and 1980's, Danish shipyards largely were kept alive by various government schemes. This was done either through public orders for the construction of ferries, naval vessels or the like, or through favorable tax treatment for investors in new ships, which placed orders at Danish yards. Gradually government subsidies were removed, and the Danish shipbuilding yards closed in the 1980's and 1990's. The Odense Steel Ship Yard was the last new building yard and it ceased production in 2012. Again, retrospectively one can argue that subsidies to the shipbuilding industry helped sustain an industry that was not competitive.²⁷

The furniture industry has internationally been characterized by relatively free markets with little protection and few subsidies. A significant part of the Danish furniture production has been exported for many decades, but it was mainly from the early 1980's that the industry experienced an export boom. Although the Danish furniture production always has been exposed to international competition, it was only in the late 1990's and especially after the turn of the millennium, that the furniture production was outsourced to foreign subcontractors. This is largely due to that Danish manufactures managed to sell relatively expensive furniture where quality of craftsmanship was high.²⁸

Ownership structure

Small and medium-sized Danish manufactures have previously been characterized by family ownership. Some still are, but in recent years equity funds have acquired many of the old family-owned companies. The ownership structure has had a major impact on the value-chain strategies that have been selected. Judging from the GONE results, there is much evidence to suggest that family-owned businesses have been more reluctant to move production abroad, whether it is in the form of outsourcing or in the form of offshoring.

In the 1970's and 1980's the textile and clothing industry was clearly characterized by many small manufacturers, where the entire production was done at one site in Denmark. As international competition increased these manufactures sought to automate and streamline production, while only reluctantly some companies began to outsource production. A somewhat similar picture emerged in the furniture industry, but this happened between 10 and 20 years later than the textile industry. The result in both of these industries has been that almost all of these small businesses are closed. Those that are left either have a large and highly automated production facility or are new companies, which have been based on foreign production from the very beginning of their business.²⁹

This may suggest that family-owned businesses only very slowly are changing strategies and that this conservative "business-as-usual" approach has proved to be fatal for Danish manufacturing companies. But this conclusion is too simplistic. Especially for the furniture industry it was problematic for small and medium-sized enterprises to establish their own production sites in Eastern Europe in the 1990's, partly because this process was very capital intensive and partly because it would have required an expertise which was rarely present. Moreover, the perception of most businesses and at the trade association Dansk Møbelindustri (Danish Furniture Industry) that quality furniture had to be produced in Denmark. However, one must be aware that it is much easier

to figure out the winning strategies when looking back than it is to predict the right strategies for the future. For a small textile or furniture manufacturer in the 1980's or 1990's, it undoubtedly seemed risky either establish a foreign subsidiary or to do business with Eastern European or Asian subcontractors.

Also among the marine equipment manufacturers, it seems clear that the ownership structures have been very important for the value-chain strategies. Apart from the B&W, the large Danish shipyards were owned by the major Danish shipping companies, including the J. Lauritzen Group, AP Moller Maersk and the East Asiatic Company, and partly due to this ownership structure the shipyards survived for several years, although there were unprofitable. Furthermore, AP Moller Maersk has chosen to keep production at Odense Steel Ship Yard for several years because the shipping company in the manner achieved a competitive advantage by being able to develop new and better ships. A number of marine equipment subcontractors have been founded by the shipyards, which previously were the owner of many of these companies. This ownership was previously crucial for the orders of these subcontractors, but along with the closure of the Danish shipyards and major shipping companies' sales of the marine subcontractor, there are no longer the same close connections between the shipping companies, the shipyards and the marine subcontractors. Despite of this development many Danish marine subcontractors are doing very well, partly due to the fact that they continue to deliver products for building of ships for Danish shipping companies, regardless of it being done in South Korea or China.³⁰

Another important point in relation to the company-owned Danish shipyards is that both the J. Lauritzen Group and AP Moller Maersk has been very involved in creating new jobs at the former shipyard areas in connection with the closure of Danyard in 1999 and Odense Steel Ship Yard in 2012. Some of these new businesses are wholly or partly subcontractors for the shipbuilding industry, and has to some extent been able to get started with direct or indirect support from the shipping companies.³¹

Societal consequences

As shown, the Danish manufacturing companies have changed value-chain strategies over the past three-four decades and often with major corporate and societal consequences. This goes both in relation to the companies that have survived; the companies that are closed down and the new businesses that have emerged, but also for the Danish society in a broader sense and for the job opportunities for all Danish citizens.

In his article "*From shipbuilding to alternative maritime industry - the closure of Danyard Frederikshavn in 1999*" Thomas Roslyng Olesen shows that the closure of Danyard did not represent a complete collapse of the job market in Frederikshavn. A very large proportion of the former shipyard workers found jobs in other businesses in the area, and most could use their skills from the yard. In his PhD thesis from 2012, he has documented that something similar happened after the closure of almost all other major Danish shipyards in the 1980's and 1990's, while it is still too early to say what will happen after the closure of the Odense Steel Ship Yard.³² The closure of the shipyards has not been the disaster among the former shipyard workers that might have been expected. Something similar appears to have been the case in the textile industry.³³ The former textile workers have found employment elsewhere, e.g. in the furniture industry. At this point it might have been interesting to include the telecom industry, as many people were working in this industry in the 1990's, especially in North Jutland. Apparently, most employees in the telecom industry have found a new job after the closures, but the question has not yet been thoroughly investigated. It would be interesting to examine whether these employees have helped to generate faster growth for the companies in which they are now engaged, because many of these workers are characterized by being well educated and having professional skills that might be useful in other

industries. This is an issue that deserves further research. Throughout the examined period there have been major changes in relation to the composition of the workforce in various industries. Most pronounced is of course the development of the textile and clothing industry. Still a relatively large number of employees are engaged here, but the 2013 employee profile differs significantly from the one in 1970. For good reason, there is virtually no production workers – dressmakers, production technicians, etc. – remain, while today there is very large proportion of designers and product developers, buyers, sales staff and branding experts. A similar – though less pronounced – development has taken place in the furniture industry.

Furthermore, this development had regional importance for employment in Denmark. A significant part of the textile production in the 1970's and 1980's took place in Central Jutland, while the majority of those employed in the textile industry today is located in the Copenhagen region or to a lesser extent on the east coast of Jutland. Something similar has happened in the furniture industry, where a cluster of manufacturers of pine furniture in the 1980's and 1990's was established in Central Jutland, which has since almost disappeared, while those employed in this industry are largely located in the metropolitan area. This means that the changed value-chain strategies not only had major demographic consequences – it also had considerable regional importance.

Summary

The GONE project has uncovered how the textile, the furniture and, shipbuilding and the marine equipment industry in Denmark have changed value-chain strategies, which in turn has had a major impact on those employed in these industries and for Danish society as a whole. It is indisputable that the number of persons employed in the actual manufacturing jobs has decreased very significantly in Denmark since 1970. Instead more people are working in design, purchasing, sales and branding. Whether this trend will continue, and whether the loss of production over time also will result in loss of design and product development, it is not possible to say anything certain about yet. There can be no unequivocal answer as to whether there is a direct link between research and production, as Dansk Produktion claims in the campaign "*Viden + production = Velfærd*". Among the marine subcontractors there is almost a clear picture that for businesses it has been important to maintain production in-house, whether it is in Denmark or abroad. An important reason for this is that it is important to maintain and develop production skills when developing products.

On the other hand, there is no clear link between production and design and product development in the textile and clothing industry. Here the winning value-chain strategy was to outsource the entire production – primarily to subcontractors in the Far East – and only keep the design, procurement, sales and branding in Denmark. So far, especially Bestseller and partly IC Company had very good results using this strategy. In the furniture industry, the picture is a somewhat more diffuse, as there are still some manufacturers who are doing well via highly automated production in Denmark. There are also a few manufacturers of classic furniture designs, where skilled cabinetmakers make the furniture. But besides this the developments in the furniture industry is much similar to the one that has taken place in the textile industry.

Notes

¹ www.danskproduktion.dk, July 2013.

² www.foreninger.di.dk, July, 2013.

³ The GONE-project was led by Professor John Johansen from the Center for Industrial Production (CIP) at Aalborg University. In the project, Associate Professor Brian Vejrum Währens from CIP, Associate Professor Bent Dalum – and later Associate Professor Christian Østergaard – from the Department of Business and Management at Aalborg

University, Professor Torben Pedersen, Center for Strategic Management and Globalization at the Copenhagen Business School, Professor Patrik Jonsson from the Department of Technology, Management and Economics at Chalmers University of Technology, and Professor Jan Stentoft Arlbjörn at the Department of Entrepreneurship and Relationship Management and Associate Professor Mogens Rostgaard Nissen of the Department for History and Civilization – both at the University of Southern Denmark – participated as project organizers.

⁴ Thomas Roslyng Olesen, 2012: *"Fugl Føniks? Transformationen af den danske værftsindustri 1975-2012"*.

⁵ Based on Kristoffer Jensen og René Taudal Poulsen's article *"Changing value chain strategies of Danish clothing and fashion companies, 1970-2013"*.

⁶ Based on Lars Hedemann og Mogens Rostgaard Nissen's article *"The internationalization of Danish furniture"*.

⁷ Based on René Taudal Poulsen's article *"Diverting developments – the Danish shipbuilding and marine equipment industries, 1970-2010"*.

⁸ Based on Bent Dalum, Christian Ø. R. Pedersen og Gert Villumsen, 2005: "Technological Life-Cycles: Lessons from a Cluster Facing Disruption". I *European Urban and Regional Studies*; 12.

⁹ Both these searches were made in February 2012.

¹⁰ Based on René Taudal Poulsen's article *"Diverting developments – the Danish shipbuilding and marine equipment industries, 1970-2010"*.

¹¹ Jyllands Posten 12. February 1997: *"Danfoss har en global strategi og satser på verdensmarkedet"*.

¹² Jyllands Posten 20. October 1997: *"Danfoss trækker job hjem"*.

¹³ Ugebrevet A4, 7 April 2003: *"Fyrede mangler hjælp til omskoling"*.

¹⁴ Erhvervsbladet, 13 October 2003: *"Fynsk beskæftigelse er sat under hårdt pres."*

¹⁵ Dagbladet Arbejderen is published by Kommunistisk Parti.

¹⁶ Dagbladet Arbejderen; 9 March 2004: *"Der findes en vej"*; 7 August 2004: *"Arbejdsløsheden stiger fortsat"*; 21 August 2004: *"Opsvinget, der aldrig kom rigtigt i gang"*; 21 September 2004: *"Om vi så skal besætte fabrikken"*; 22 October 2004: *"Metalfolk mod udflagning"*; *"Ekspertter strides om konsekvenserne"*; *"Udflagning et samfundsmæssigt problem"*; 26 January 2005: *"Globalisering og klassekamp"*; 5 February 2005: *"Globalisering og maskinstormeri"*; 3 May 2005: *"Stor appetit på Østeuropa"*.

¹⁷ Among many other examples: BT, 21 October 2003: *"Danske servicejob på vej til udlandet"*; Information, 17 December 2003: *"Kun en tåbe frygter ikke udflugtning"*; Erhvervsbladet, 2 February 2004: *"Tusindvis af elektronikjob flyttes fra Danmark til Kina"*; Berlingske Tidende, 11. February 2004: *"Manden bag Indiens mirakel"*; Information, 23 March 2004: *"Millioner af job flytter væk"*; Ingeniøren, 16 April 2004: *"Det gælder vores fremtid"*; Berlingske Tidende, 5 July 2004: *"Danske topledelse vil forlade landet"*; Erhvervsbladet, 27 January 2006: *"Udflugtning af videnstunge job eksploderer"*.

¹⁸ For examples read DI Indsigt, 16 March 2011: *"Store virksomheder vil investere i udlandet i stedet for Danmark"*; SCM, 28 March 2011: *"Danske virksomheder outsourcer som aldrig før"*; Ingeniøren, 6. maj 2011: *"Offshoring giver højere vækstforventninger"* og *"Ekspertter: Offshoring kan skade dansk økonomi"*; 27. maj 2011: *"Ny bølge af udflugtning er i gang"*; SMC, 13. december 2011: *"Globaliseringen går ikke bare over igen"*.

¹⁹ This part of the article is based on the articles in this volume written by Kristoffer Jensen and René Taudal Poulsen concerning the textile and clothing industry; Lars Hedemann and Mogens Rostgaard Nissen concerning the furniture industry; René Taudal Poulsen on the shipyard industry and the marine equipment industry and Thomas Roslyng Olesen concerning the closure of and spin-off manufactures from the shipyard industry.

²⁰ Based on Kristoffer Jensen and René Taudal Poulsen's *"Changing value chain strategies of Danish clothing and fashion companies, 1970-2013"*.

²¹ Based on Lars Hedemann and Mogens Rostgaard Nissen's *"The internationalization of Danish furniture"*.

²² Based on Lars Hedemann and Mogens Rostgaard Nissen's *"The internationalization of Danish furniture"*.

²³ Based on Kristoffer Jensen and René Taudal Poulsen's *"Changing value chain strategies of Danish clothing and fashion companies, 1970-2013"*.

²⁴ Based on René Taudal Poulsen's article *"Diverting developments – the Danish shipbuilding and marine equipment industries, 1970-2010"* and Kristoffer Jensen and René Taudal Poulsen's article *"Changing value chain strategies of Danish clothing and fashion companies, 1970-2013"*.

²⁵ Based on René Taudal Poulsen's article *"Diverting developments – the Danish shipbuilding and marine equipment industries, 1970-2010"*.

²⁶ Based on Kristoffer Jensen and René Taudal Poulsen's article *"Changing value chain strategies of Danish clothing and fashion companies, 1970-2013"*.

²⁷ Based on René Taudal Poulsen's article *"Diverting developments – the Danish shipbuilding and marine equipment industries, 1970-2010"*.

²⁸ Based on Lars Hedemann and Mogens Rostgaard Nissen's *"The internationalization of Danish furniture"*.

²⁹ Based on Lars Hedemann and Mogens Rostgaard Nissen's "*The internationalization of Danish furniture*" and Kristoffer Jensen and René Taudal Poulsen's article "*Changing value chain strategies of Danish clothing and fashion companies, 1970-2013*".

³⁰ Based on René Taudal Poulsen's article "*Diverting developments – the Danish shipbuilding and marine equipment industries, 1970-2010*".

³¹ Based on Thomas Roslyng Olesen's article "*From shipbuilding to alternative maritime industry – the closure of Danyard Frederikshavn in 1999*" and René Taudal Poulsen "*Diverting developments – the Danish shipbuilding and marine equipment industries, 1970-2010*".

³² Thomas Roslyng Olesen, 2012: "*Fugl Fønix? Transformationen af den danske værftsindustri 1975-2012*".

³³ Olsen, K.A., R. Ibsen and N.C. Westergaard-Nielsen, 2004. *Does Outsourcing Create Unemployment: The Case of the Danish Textile and Clothing Industry*, Aarhus: Handelshøjskolen i Århus.