ОТРАСЛЕВЫЕ И МЕЖОТРАСЛЕВЫЕ КОМПЛЕКСЫ

O.-P. Hilmola [a], **A. Tolli** [b], **Yu. Panova** [c]

[a] LUT University (Kouvola, Finland)
[b] Estonian Maritime Academy (Tallinn, Estonia)
[c] Luoyang Normal University (Luoyang, China; e-mail: panovayulia87@gmail.com)

GLOBAL CORPORATIONS AND SMALLER ACTORS IN TEXTILE BUSINESS: EUROPEAN PERSPECTIVE [1]

Earlier in Europe, there existed many local textile brands and manufacturers. However, these have experienced significant pressure from the rapid expansion, and success of the European based global textile industry corporations, such as H&M and Inditex (Zara). Their further advancement is supported by the expansion into the new locations and application of nearshoring strategies to the favourable markets, such as Russian, which have attracted to some extent previously entirely offshored European manufacturing located in China. In this regard, the objective of the current study is the assessment of the business activities of the given companies, as well as one company from Finland, and three major textile companies from the Baltic States, through the designed methodological approach. Due to the fact that most performance indicators of companies are based on empirical data, the study is explorative in its nature. Moreover, it shows the relationship between the main key performance indicators of the company with one of the functional areas of logistics (warehousing and inventory management). In particular, analysis of this research shows that two global actors (H&M and Inditex) have experienced exceptional growth, profits and profitability during the years 2001–2016. It was concluded that nearly all of these earlier successful ones and smaller actors have faced difficulties in the past decade, and best growing has been company concentrating on warehousing and retail, instead of manufacturing. Most of these smaller actors have faced profitability challenges, and considerable amount of shareholder value has been lost during the decade.

Keywords: textile industry, growth, sales, investments, profits, shareholder value, globalization, Europe, emerging markets, Russia, manufacturing, distribution

Introduction

For decades, researchers have been worried about the competitiveness of developed economy textile industry jobs and the existence of manufacturing operations [1–6]. Change has not only been on the business models of the old west as Asian operations have also been under pressure to renewal from the technology side [5, 7, 8]. During the previous decades, we also witnessed a huge growth of global textile industry companies, which have retail network coverage in Europe, North America, Latin America and Asia. Different operative models have been developed for this as some even have manufacturing operations at their disposal (partly), while the others are staying within the option of total outsourcing [4, 9]. From the former successful example is Inditex (Zara), while latter typical are H&M & Gap [10]. Simultaneously global textile industry corporations have increased the pressure on local companies, either operating in retail and/or manufacturing [11]. Typically, strong home-market presence with distribution as well as retail network control together with a strong brand, are the ingredients of success in clothing industry internationalization [11]. However, it should be emphasized that internationalization is not easy success mantra as it highlights, and possibly enforces,

---

all the earlier problems in domestic markets, like those in product design, and production and operations management [12].

Research problem could be answered with following questions: (1) "How have the financial performance of globally dominating textile industry corporations developed from the early 2000s?", (2) "What are the strengths and weaknesses of global growth strategy?", and (3) "How have at the same time more locally oriented companies performed?". These questions are primarily answered using second-hand data gained from annual reports, financial statements as well as corporate press releases. As the observation period of this study is long, analysis has been extended, and comparing numerous companies in the study would have been impossible with specific case company data. A similar study has been completed from the efficiency of Inditex within long-term as it internationalized its sales after late 1990's. Longitudinal analysis of the years 1990–2013 showed that Inditex benefitted a lot from internationalization as it increased its efficiency considerably [10]. However, Inditex internationalization has differed from the others in that respect that it spends relatively low amounts on local advertising (Inditex did not have at that time separate marketing department [13]), and has expanded first its sales network culturally close countries of its country of origin [14]. In comparison, between Inditex and H&M, it has been stated that H&M got international faster, but it expanded similarly with Inditex out of its Swedish base to culturally close countries [10, 14]. As the major difference in retail stores, H&M favours organic expansion as Inditex mixes with franchising and joint ventures [14].

This manuscript is structured as follows: Review concerning effects of globalization within textile industry supply and value chains is presented in Section 2. Research methodology follows in Section 3, where we introduce how data from two global textile industry actors as well as three Baltic States basing companies and one out of Finland was gathered and analysed. Statistics about H&M and Inditex in a period of 2001–2016 is presented and interpreted in Section 4. Findings of these two big global corporations are being made on three Baltic States companies and one Finnish company in Section 5. Research work is being concluded with future research considerations in Section 6.

Effects of Globalization on Textile Industry Supply and Value Chains

Within previous two-decade time period, globalization has been the theme within many industries, and not least in textiles [4, 5, 8]. Export

of Asian countries has substantially increased, while earlier dominating regions such as Europe, Mexico, and USA have been struggling [8]. Despite the fact that China remains a top exporter of textiles, followed by the European Union and India, Figure 1 illustrates noticeable changes, where Vietnam recorded growth, such as its production in the year 2015 was nearly 12.3 times higher than in the base period (without availability of data for the year 2016[1]). Thus, Vietnam for the first time entered into the top ten exporting countries of textile[2]. Chinese textile industry export is nearly five times higher in the year 2015 as what it was in 2001. Similar growth trajectories and results (around six times larger USD export volumes) are apparent in the curves of Bangladesh (statistics end in the year 2015), and Cambodia.

Slower growth countries in export have been achieved in Turkey and European Union 28 countries. Turkish textile industry export grew to 2.5 times larger in this observation period as EU-28 was able to grow 1.7 times larger. Very slow export growth has been apparent in the USA, where growth out of the base year has been 17.5 %. Only declining export country in the analyzed countries is Mexico, which has lost somewhat above one-third of its textile export within this period.

Development of exports in this industry has been well-reported in earlier research (e.g. [15]). Closer ties and a more free trade between USA and China caused the export decline of Mexico, which was strengthened during the year 2001 with the membership of China within the World Trade Organization [16]. Similar stronger growth was apparent in Cambodia (the year 2004) and Vietnam (the year 2007) from their joining to WTO [16]. Sources of export growth for these Asian countries could be argued to be markets of Europe and North America. Lately, low-cost outsourcing has experienced difficulties as e.g. in Bangladesh during the year 2013 more than a thousand workers died after building structures of the factory collapsed, and as one cause has been argued to be the low-cost emphasis of the industry together with fast fashion cycles [15].

The share of Russia in the world textile export market is very small and mainly oriented to the Belarus, Ukraine, and Kazakhstan, accounting for more than 50 % of the Russian textile exports. In 2016, it equalled in financial terms 664 mill. USD,

---

[1] United Nations Commodity Trade Statistics Database. Retrieved from: http://comtrade.un.org/ (date of access: 12.12.2017).

[2] World Trade Statistical Review. Retrieved from: https://www.wto.org/english/res_e/statis_e/wts2017_e/wts17_toc_e.htm (date of access: 13.12.2017).
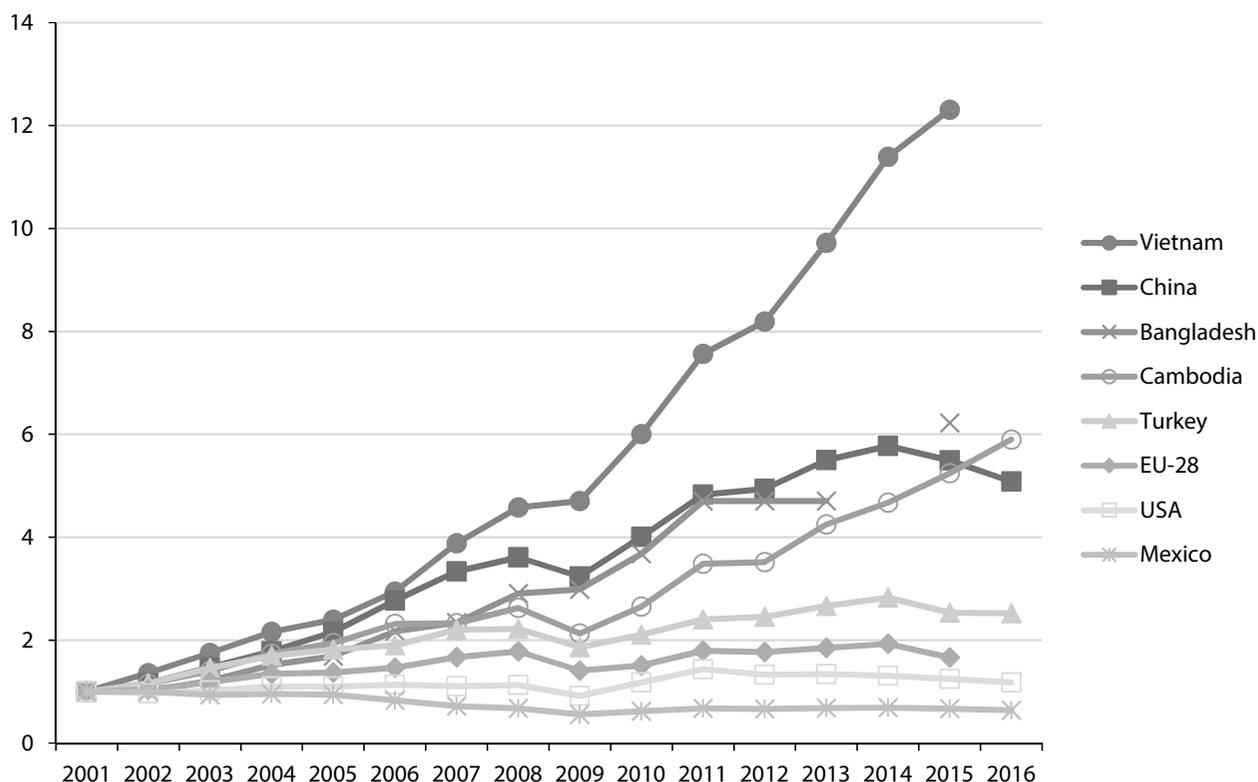
Fig. 1. *Indexed development (the year 2001 = 1.00) of textile industry export of selected countries in the period of 2001–2016 (HS trade codes of 50 to 63)*

which represents less than 0.1 % of the world's textile exporting volumes (754 bill. USD) of the same year[1]. However, it's volume increased in 2016 compared to 2015 by 4.5 %, unlike in the global trend, where the volume decreased by 2.3 % in the same period. In part, the positive dynamic in Russia was attained due to the government subsidies infused to the textile sphere, as well as the devaluation of the Ruble, which placed Russian products in a predominant position in comparison with sharply increased import prices, and also made deliveries of textiles abroad more advantageous for enterprises [17]. The state subsidies are very in demand; they were used by more than 40 enterprises out of ten thousand enterprises, the main or additional type of activity of which is called textile production [17, 18].

In general, the Russia textile industry remains focused primarily on the domestic market and has a potential for growth after a steep decline in 2014 (20.8 %). Meanwhile, in the foreseeable future, this can happen only if an attractive mechanism for nearshoring foreign manufacturing to Russia is created. This mechanism was initiated by the developed countries, when Western companies have instead of reshoring manufacturing

back to the home country [19], decided to relocate manufacturing closer to the home country. That is why nowadays, Russia has sufficient initial conditions for the implementation of neashoring initiative [20, 21, 22]. First and foremost, it is decreasing labour cost. In 2014, wages were 30 % higher in Russia compared to China. However, after the collapse of the RUB in 2015, the wages in China overpassed the wages in Russia by 25 %. Russian wages increased only by 18 % during 2008–2015, whilst in the previous period of 2000–2007, the growth of real wages in the economy was more noticeable (e.g., 1.5 times; [23]). Other factors include inflation, exchange rate, labour productivity [25], existing underloaded production capacities, as well as availability of raw materials (especially, for the segment of the production of synthetic fibers, which can be based on an already existing petrochemical complex, contributing to the development of clusters in long-term perspective; [24]).

In light of substitution of natural fibers with chemicals in the textile market, the manufacturing development of synthetic fabrics and technical textiles is considered as the main driver in the Strategy for the Development of Light Industry in Russia [25]. Moreover, technical textiles are regarded as one of a high-tech branch, which triggers import substitution that is essential for light industry development [26]. The reserves for the import substitution are hidden in the advanced

---

[1] International trade centre. Retrieved from: http://www.intracen.org/itc/market-info-tools/market-analysis-tools/ (date of access: 13.12.2017).

production of technical textiles on the basis of processing the progressive synthetic fibers and threads [17] that initiate the growth of innovative development in many spheres of the economy. In Germany, for example, the textile industry is the third by the share of innovative products (these products account for about 25 % of the industry's output). In Russia, this figure is no more than 2 %, which can be explained by the broader objective reasons. One of these is obsolete equipment and the lack of investments in new purchases that are not less essential for innovations than human capital [27, 28, 29]. Due to these reasons, the volume of light industry in the industrial production of the Russian Federation has been less than 1 %, while the mobilization needs of the country are satisfied by the output of the industry only by 17–36 % [17], which contradicts the legislation on the security of the state, according to which the share of domestic production in the volume of strategic products should not be less than 50 %, as noted in the Strategy [25].

Meanwhile, the started process of nearshoring manufacturing to Russia could contribute to the revitalisation of the light industry and specifically textile production in Russia [20, 21, 22]. At present, 20 percent of all products that Decathlon sells in its stores are produced in Russia. It is expected that the share of Russian production in Decathlon turnover will enhance to 45–55 % in the next two years[1]. The Swedish retailer IKEA by 2025 is going to invest in Russian economy about 100 billion Rubles, and after 10 years, 80 % of the things in the domestic stores of this network will originate in Russia [18]. Moreover, major retail chains like IKEA, Zara, H&M, and Decathlon, are thinking about moving manufacturing from China to Russia, supporting the idea of nearshoring [20, 21, 22]. Even the government of China itself intends to move manufacturing within twelve leading industries to Russia. An example would be the Chinese clothing retail chain, Sela, who is interested in moving manufacturing to Russia.

Although in recent years much has been stated from the inability of Chinese textile industry to grow further through exports, it is the definitive leader in exports as analyzed countries are examined through absolute USD currency export amounts. Chinese exports were 253.2 billion USD in the year 2016 as second largest EU-28 reached 49.85 billion USD. The potential of the further growth is provided by the many factors, including recent outstripping of the EU by R&D expenditures as a percentage of GDP, that lead to the overall transformation of China into a center of innovative activity in the future [30]. Bangladesh has outgrown its rivals, and with the year 2015 export numbers, it was third largest (28.3 bill. USD), while Vietnam, remaining one of the fastest growing countries in Southeast Asia, was fourth with the total amount of 27.27 billion USD.

The last two decades in the fashion industry has been the period of rapid internationalization [5, 31]. Some corporations have succeeded as many smaller and local ones have failed [5, 12]. On the whole, too many successful entrepreneurs still prefer to sell the business to foreign multinational corporations, and not to become local leaders [32]. Simultaneously, companies have aimed to position themselves as international brands with extensive retail network coverage and e-business sales, but also utilizing low-cost manufacturing opportunities globally.

The impact of the global network on the industries can be estimated through the comparison of indicators of revenue of companies that use the Internet and traditional offline sales whose revenues decrease as the mechanisms of the online economy grow [33]. E-commerce also helps small companies to survive nowadays. For example, when small manufactures cannot provide tangible parts of products (tens of thousands of jackets or trousers) for retailers, they are actively utilizing Internet commerce. That is the case in Russia (author's things, which are made in the country, are practically impossible to buy in network shops), since they are sold via the Internet (e.g. brands Stoyn, and Chehov, of which 80 % of customers make purchases online; [18]). Large giants, such as Inditex group, which include well-known high-end brands of Zara, Pull & Bear, Massimo Dutti, Bershka, Stradivarius, Oysho, and Uterque, began online sales already in 2007 and plans to expand electronic commerce. According to the company, at present Inditex has a presence on the Internet in 25 markets[2].

For prospering in business, companies are not only utilizing low-cost opportunities, but also to build up much-needed flexibility [4, 8, 9, 14, 31]. Fashion cycles are so short that older annual or multi-annual contracts do not apply anymore in the current environment. In the past, large retailers planned their sales a year ahead, and things were stored in huge warehouses. Now, due to vol-

---

[1] Minpromtorg and regions state the rapid development of the light industry. Retrieved from: http://www.rustekstile.ru/publishing/minpromtorg-i-regiony-konstatiruiut-stremitelnoe-razvitie-legproma (date of access: 13.12.2017).

[2] Review of the world market of clothes and textiles. Retrieved from: http://www.ereport.ru/articles/commod/textile.htm (date of access: 13.12.2017).

atile currency exchange rates, the companies are afraid of making large stocks [18].

An early case study out of Inditex group reported that the company, which was market-oriented, not marketing one [13]. Mastering production, information flows (out of customer interface) and logistics was seen as critical [6]. It should be emphasized that in recent decades, a change has taken place, where masses in North America and Europe have been able to use fashion clothes, which was the earlier privilege of wealthier citizens [13]. This is the one reason for the continuous growth of global corporations in this sector, like Inditex and H&M.

Research Methodology

The current study can be regarded as a cyclical activity comprised of several steps, so-called directed actions, which were used for the material evaluation under a broader model [34]. According to the authors, data analysis consists of three procedures: data reduction, data display, and conclusion drawing. Those phases have been attained on the ground of the smaller units of directed actions, which can be represented by the theoretical methods-operations (e.g. decomposition, synthesis, comparison, abstraction, concretization, generalization, formalization). They have a wide field of application, both in scientific research and in practical activity [35].

The first phase of data reduction helped to refine the mass of qualitative information. For this to happen, the organisation of raw data into conceptual categories, also known as codes, was provided. The codes have been established based on the research questions. This part of the data analysis was grounded on the decomposition of the whole into parts, the isolation of individual characteristics and qualities of the phenomenon, which is considered as an organic part of any scientific research and usually form its first phase [35].

Once the first string of coding has been completed, the authors became more analytical, and looked for the possibilities of relating the proposed codes together under a more general code or organising codes sequentially and identify any causal relationships. Therefore, the next method-operation, which was employed in the given research, became a synthesis. Synthesis is the connection of various elements, sides of a research phenomenon/object into a single whole (system). Naturally, synthesis is the opposite of analysis, with which it is inextricably linked [35].

The second procedure of 'data display' employed the representation of data mainly in the form of graphs and tables (without undermining the essence of other graphical formats, [34]). To depict data in the form of graphs and tables, the authors also resorted to the theoretical method-operation of comparison. An integral part of the comparison became an analysis, because, for any comparison, it is necessary to isolate the corresponding characters of comparison in a phenomenon. At the same time, implying the fact that the comparison is the establishment of certain relations between phenomena [35] naturally, synthesis was used in the course of the comparison.

The other methods-operations, such as abstraction and concretization, were also utilized by the authors. For these reasons, the iterative process of research was carried out. In particular, to lower the specification of description (push) and; to increase the level of abstraction, allowing to hide several elements in a 'black box' structure (pop). Through the undergone theoretical methods-operations, the research phenomenon/object (i. e. global corporations and small actors in textile business) was considered from the systems point of view, a so-called multifaceted spectrum, which allowed proceeding with the third phase of conclusion drawing.

It should be noted that we intend to analyze here the second-hand data (mostly from the accounting records of annual reports) of two global textile industry giants, H&M and Inditex (Zara). Both of these two have grown considerably and internationalized in the observation period of 2001–2016. It is also notable that Inditex (Zara) was privately owned until May 2001, when it went public. Earlier research works have analyzed these two companies from the period of the first five years after IPO, however, a comprehensive update to analysis has not been made. There is demand for more knowledge out of these two dominant players as their growth has caused so severe restructuring in smaller and more local economy affecting actors. Many smaller companies have ended their operations due to bankruptcy, or are in serious troubles in the competitiveness of their textile business (in Finland, Estonia and Lithuania, there exist numerous examples out of these, however, similar situation exist in the USA and Central Europe; Pekarskiene & Susniene, 2011).

The chosen strategy from an investment point of view has been extremely successful in H&M and Inditex (Zara) situations. Figure 2 illustrates this in good fashion — investment to Inditex during the time of IPO in the year 2001 has grown to roughly nine times higher (within same time period Spanish Stock Exchange Index IBEX 35 grew
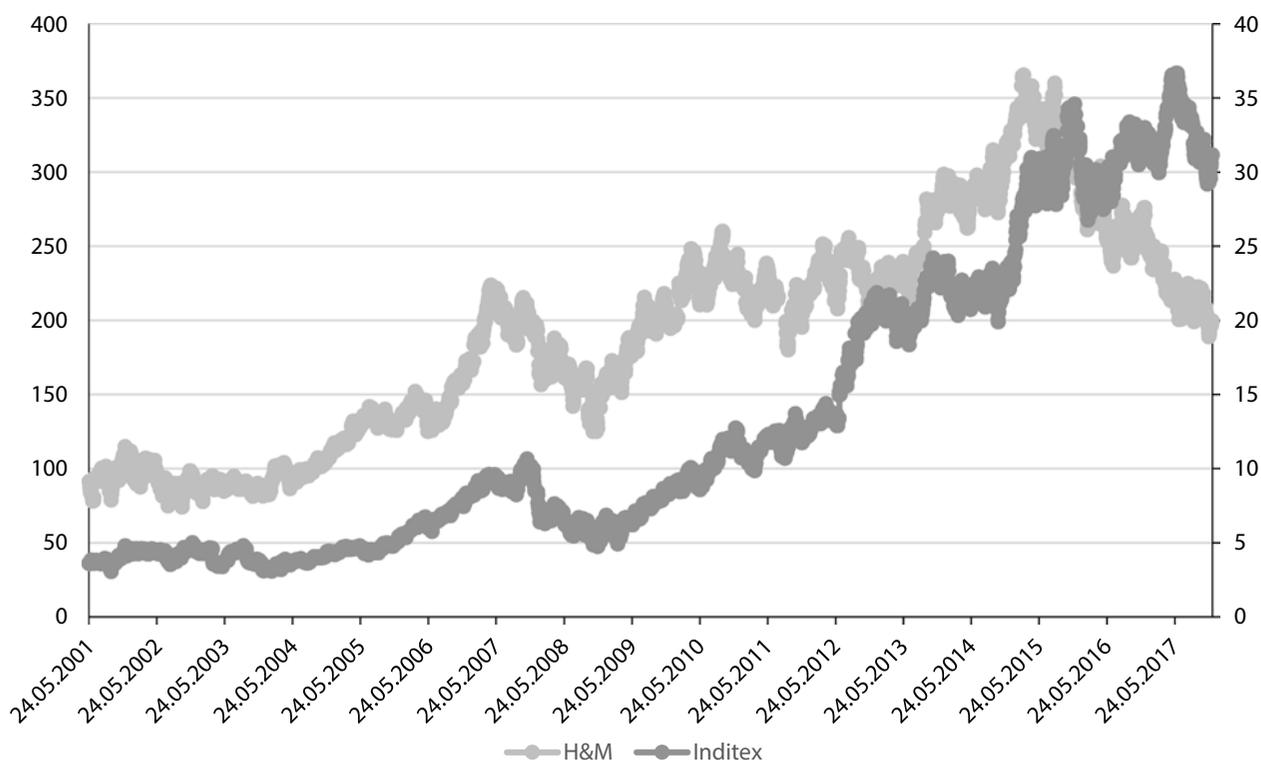
Fig. 2. *Share price development of H&M and Inditex (Zara) after Initial Public Offering of the latter until the end of the year 2017, 11th of Dec. (left y-axis in SEK for H&M and right y-axis in euros for Inditex) (from: Inditex (2017). Inditex — Share and Capital Stock. Retrieved from: https://www.inditex.com/investors/investor-relations/share-capital (date of access: 12.12.2017); H&M (2017). H&M Group — The Share. Retrieved from: http://about.hm.com/en/investors/the-share.html (date of access: 12.12.2017))*

only by 13.1 %). Most of these massive gains have taken place after the year 2009. In the situation of H&M, share price development has been more conservative. At the end of 2017 investment of H&M time has grown to a little bit higher than two-fold (Swedish Stockholm 30 Index grew by 68.9 % in this same time period). However, the H&M share price has been under pressure in recent year, and highest valuation was reached in early 2015, when the share price showed four-fold growth. It should be emphasized, that H&M is not poor performing by any measure — Inditex has been just one of the rare number of companies illustrating nine-bagger performance in the period of 2001–2017.

Both of the companies have paid handsome dividends during the years — H&M has been a constant dividend payer for the entire period. For Inditex dividends were not that common in the early years of observation period, however, in recent years, it has shown an impressive and growing dividend paying ability.

Both these companies are analyzed in the following in annual report quantitative data. We have assured data reliability by double-checking the numbers several times as well as making the same analysis from the shorter time-period by some student groups at Tallinn University of Technology Estonian Maritime Academy (B.Sc. students of Basic Logistics course). In the follow-

ing analyzed numbers are, of course, aggregates of two global corporations, however, based on our opinion they illustrate well the chosen strategy paths and implications.

Analyzing H&M and Inditex During Period of 2001–2016

Within a long-term perspective, both H&M and Inditex are showing a continuous ability to generate growth (Figure 3). Within sixteen years, H&M has grown as approx. 4.84 times larger in revenue terms, as Inditex has been somewhat aggressive showing growth of approx. 7.1 times. If EU area inflation is used to reveal real growth numbers, in fixed price terms H&M has grown as approx. 4.69 times, and Inditex 6.94 times. It is really interesting to note that both companies are recession proof, and have not been greatly affected by IT bubble burst in 2001–2003 as well as out of the credit crunch in years 2008–2009. Also, companies were unaffected by European banking and sovereign debt crisis during the years 2010–2012. In recent years' growth of these two companies have only shown similar strength as they had in the early years of the observation period (in relative terms). In absolute annual growth terms, the year 2015 was the best in the observation period for both of these companies and annual growth has been strong for all three years of 2014–2016.
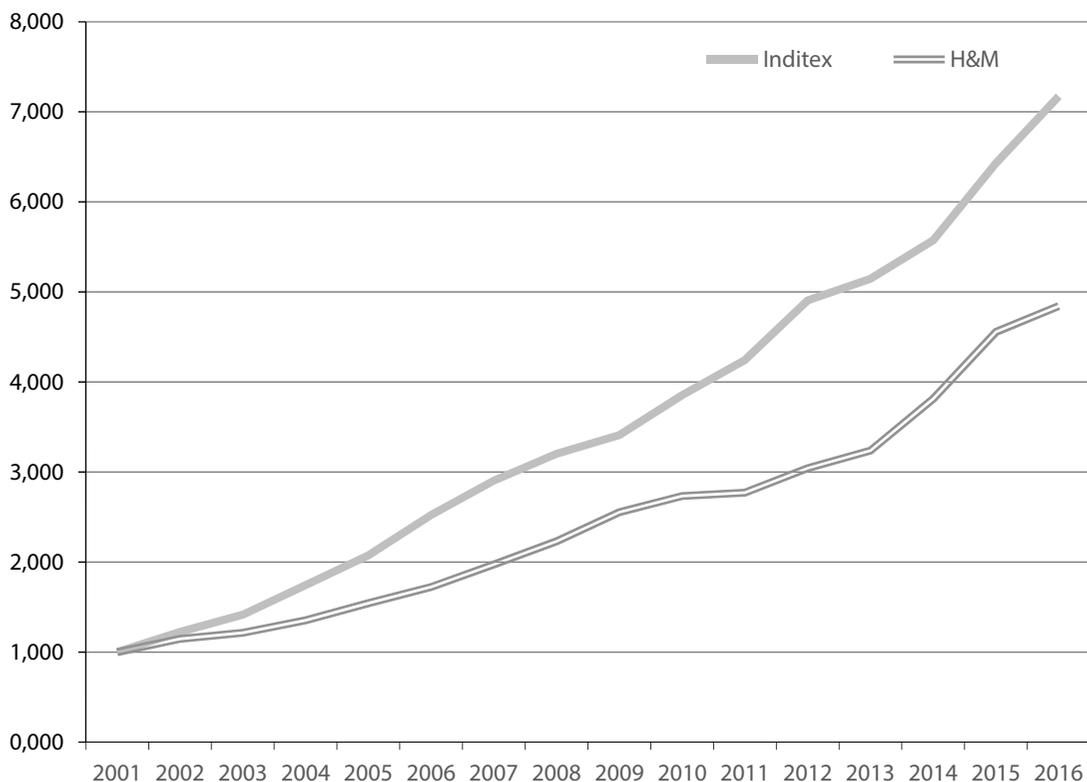
Fig. 3. *Revenue development (index) of H&M and Inditex (Zara) during period of 2001–2016 (year 2001 = 1.000)*
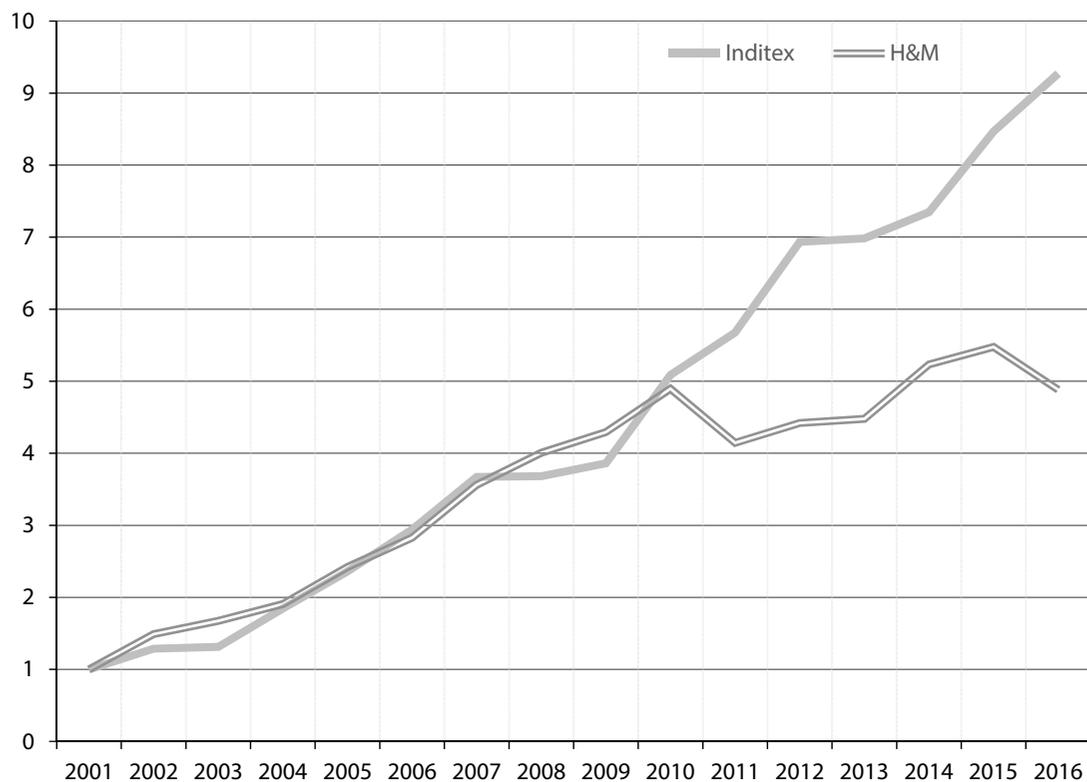

Fig. 4. *Net profit development (index) of H&M and Inditex (Zara) during period of 2001–2016 (year 2001 = 1.000)*

In net profit terms, both companies have been showing profit growth throughout the period (Figure 4). However, Inditex has shown consistency in profit growth in the entire period — some slight weakness could be detected in the year 2002, years 2008–2009 and 2013. However, a situation is in long-term perspective better than that of H&M — it seems that in the year 2011 H&M profit generating ability was hurt, and it took three years to recover to the former levels. However, growth tra-
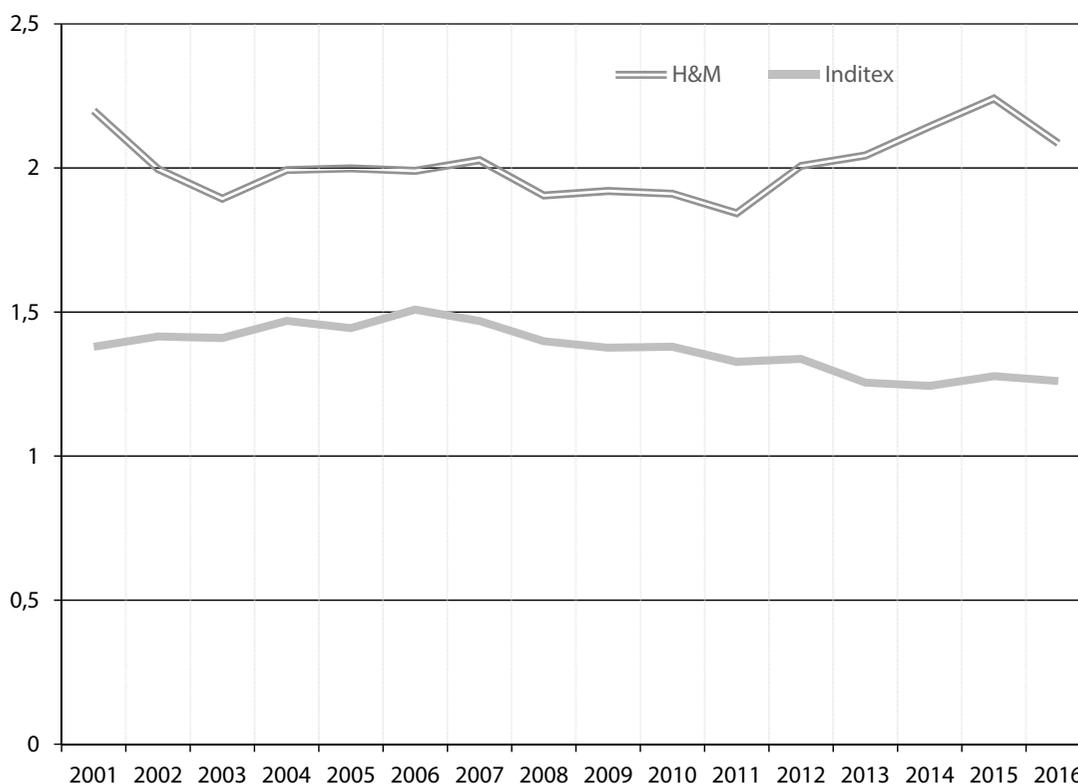
Fig. 5. *Asset turns of H&M and Inditex (Zara) during period of 2001–2015*

jectory was hurt, and average profit growth rates of 2001–2010 era (20 % p.a. growth) does not match in 2012–2015 (7 % p.a. growth). In the year 2016, profits of H&M even declined. It seems that after the year 2010 Inditex has chosen a much better long-term strategy in profit terms than H&M.

Another side of profitability is needed overall asset investment, which is showing contradictory findings against of Figures 3 and 4 interpretation. As shown in Figure 5, H&M was showing a considerable weakening in the period of 2001–2010, but changed the trajectory completely in the year 2011 onwards. Actually, asset turns are higher than ever in observation period for H&M in the year 2015 (these slightly dropped in the year 2016). This development means that company has been able to grow with slower growth needed to acquire new assets and capital. In long-term perspective this could be considered as a competitive advantage as the flexibility to complete strategy changes is greater than in poorer performing companies. One of such is its competitor Inditex. Investments in this latter case have been greatly during the years, and actually asset turns (as scaled to revenue) are going lower and lower levels all the time. Actually, in the year 2014 Inditex showed lowest asset turn performance throughout the observation period (year 2016 is not significantly different).

Lower asset turns are caused in Inditex case mostly due to the need to invest in machinery,

plants and production capacity. This hinders the profitability measures (such as Return On Investment, ROI) as asset turns remain lower. In total outsourcing strategy applied by the H&M situation is different as physical investments needed are much lower. Of course, tradeoff happens between companies in inventory turns. Inditex is much somewhat better in the observation period than H&M (as measured e.g. dividing annual revenues with average inventories held 'at hand'). In the long-term, it could also be so that Inditex will benefit from more efficient inventory management as invested manufacturing capacity is able to serve longer time periods (and amortization is not that high in profit and loss statement).

As could be assumed from the level of net profits, both of the companies are showing high standard in the level of Return On Investments (ROI). Performance throughout the sixteen years is illustrated in Figure 6. Inditex seems to be on the level of 20–25 % p.a., and does not have any trend up- or downwards. This is, of course, good result in an environment, which is constantly growing (typically high growth results in eroding profitability). In case of H&M, this profitability decline is apparent in the period after the year 2007 — it seems that high level of ROI is recording nearly continuous decline. However, it should be reminded that ROI performance of H&M is still at excellent levels
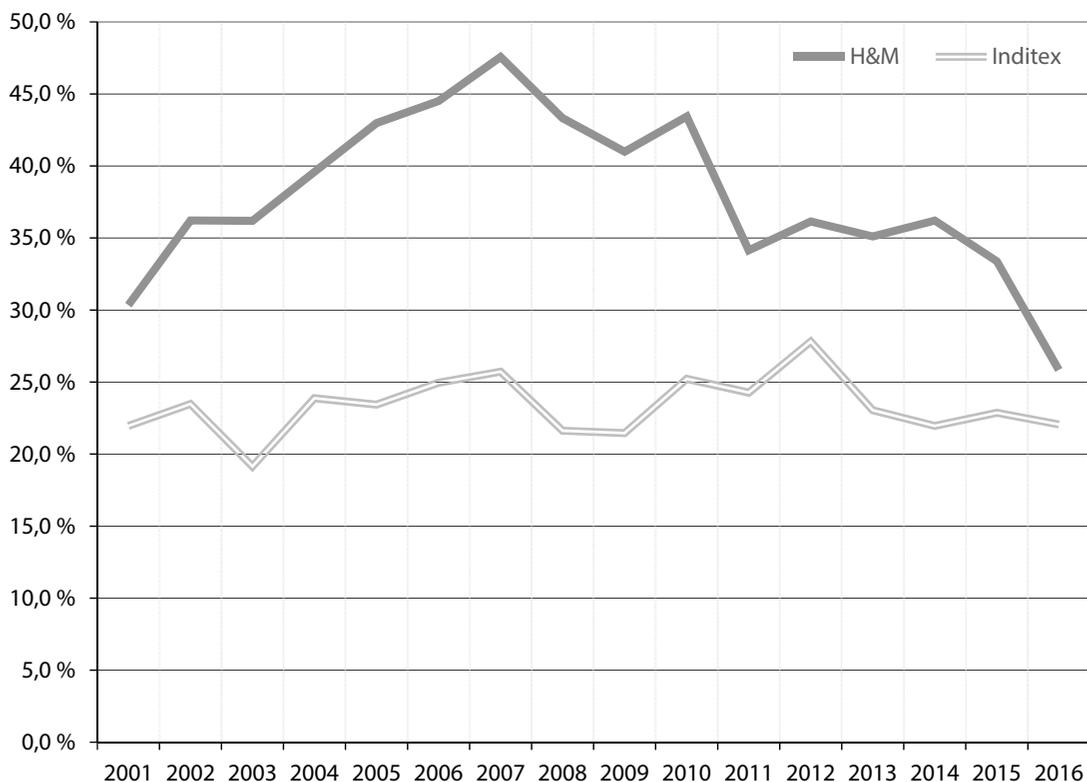
Fig. 6. *Return On Investment (Total Assets) of H&M and Inditex (Zara) during period of 2001–2016*

during the year 2016, and it is also slightly higher than that of Inditex.

Implications to Smaller Actors of Northern Europe

Both earlier analyzed companies have been really beneficiaries of globalization, and this not only concerning manufacturing operations, but also in the sales network wise. For example, Inditex reports that the number of stores at the end of the year 2015 was 7,013, while this roughly half of the end of the year 2007[1]. Most of the retail network expansion has taken place in abroad (out of Spain). Similarly, H&M has enlarged its retail network throughout the globe. At the end of the year 2015, its retail network consisted from nearly 4,000 stores, as this amount was half at the end of the year 2009[2]. The most significant amount of this H&M expansion has taken place in China, followed by the United States (as H&M has traditionally been strong in the home continent, Europe).

More locally oriented companies have of course been suffering from the expansion of global corporations in the textile industry [5]. From the Baltic States, we identified three industry actors, all of them listed in Nasdaq OMX Baltic (Apranga, Baltika and Utenos trikotažas). From Finland, we identified one, Marimekko, which has been listed in Nasdaq Helsinki since 1999 (it was initially listed in stock exchange during 1974, but there were industrial and other owners during the decades). Performance snapshot of 2005–2016 from these companies is illustrated in Table 1, and in Figures 7–8. Apranga is a textile industry retailer and warehousing company (running around 180 stores in the year 2016), while Baltika and Utenos trikotažas are involved in manufacturing. Baltika is also having its own sales network (retail stores, in June 2016 total amount being 130, and 36 were franchise operated), and increasing amount of Internet sales. Utenos trikotažas is merely a textile manufacturing company, but some Internet sales also exist. Marimekko is having also some manufacturing at its disposal, however, most of it is outsourced. Marimekko's sales network was having at the end of 2016 in total 159 stores, and out of these company-owned stores and outlets were 55 (the company has also Internet sales).

As Table 1 reveals, in a little bit more than the decade time among these four companies has been rather challenging. Shareholder value

---

[1] Financial data of 2007–2015. Retrieved from: https://www.inditex.com/en/investors/investors_relations/financial_data (date of access: 10.10.2016).

[2] Press conference 28 January 2016 presentation slides. Retrieved from: http://about.hm.com/content/dam/hmgroup/groupsite/documents/en/Presentations/2016/Press%20conference%20presentation%20Q4 %202015_en.pdf (date of access: 10.10.2016).

Table 1

Three companies from Baltic States and one from Finland, which are all significant actors in this sector and are publicly listed on the stock exchange

Company	Revenue			Net profit/loss			Share price (end of the year)		
	2005	**2016**	**Change (%)**	**2005**	**2016**	**Change (%)**	**2005**	**2016**	**Change (%)**
Apranga	49 252	172 592	250,4	2 859	11 102	288,3	2,896	2,57	−11,3
Baltika	43 518	46 993	8,0	4 644	177	−96,2	13	0,283	−97,8
Utenos trikotažas	50 199	22 790	−54,6	2 223	879	−60,5	2,595	0,8	−69,2
Marimekko	67 219	99 614	48,2	8 424	4 032	−52,1	16,24	9,48	−41,6

[*] Baltika Group — Investors. Retrieved from: http://www.baltikagroup.com/investors/ (date of access: 10.10.2016).

[**] Utenos trikotažas — Financial Reports. Retrieved from: http://www.nasdaqbaltic.com/market/?instrument=LT0000109324&list=2&pg=details&tab=reports (date of access: 10.10.2016).

[***] Baltic Equity List. Retrieved from: http://www.nasdaqbaltic.com/market/?pg=mainlist&lang=en (date of access: 3.10.2016).

[****] Marimekko (2016). Financial statements. Retrieved from: http://company.marimekko.com/sites/default/files/upload/Marimekko_Financial%20Statements%202016.pdf (date of access: 10.10.2016).
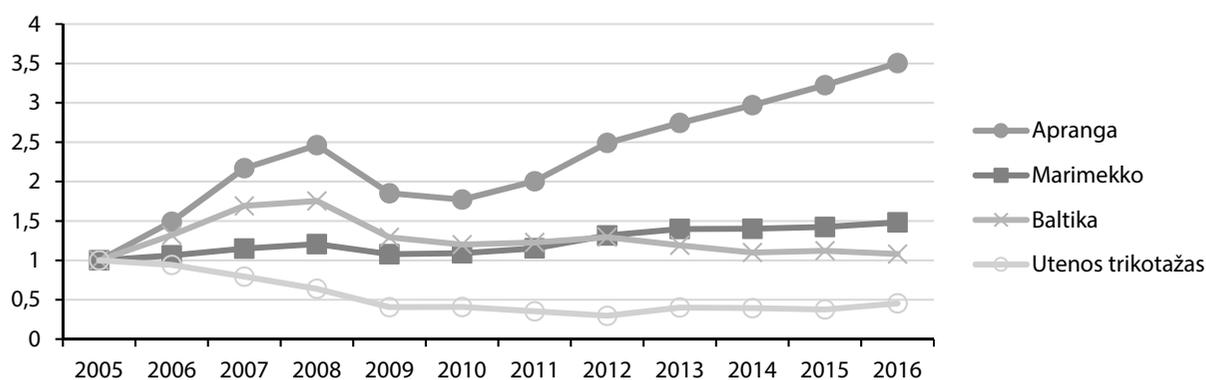

Fig. 7. *Revenue development (index) of Apranga, Marimekko, Baltika and Utenos trikotažas (year 2005 = 1.000)*
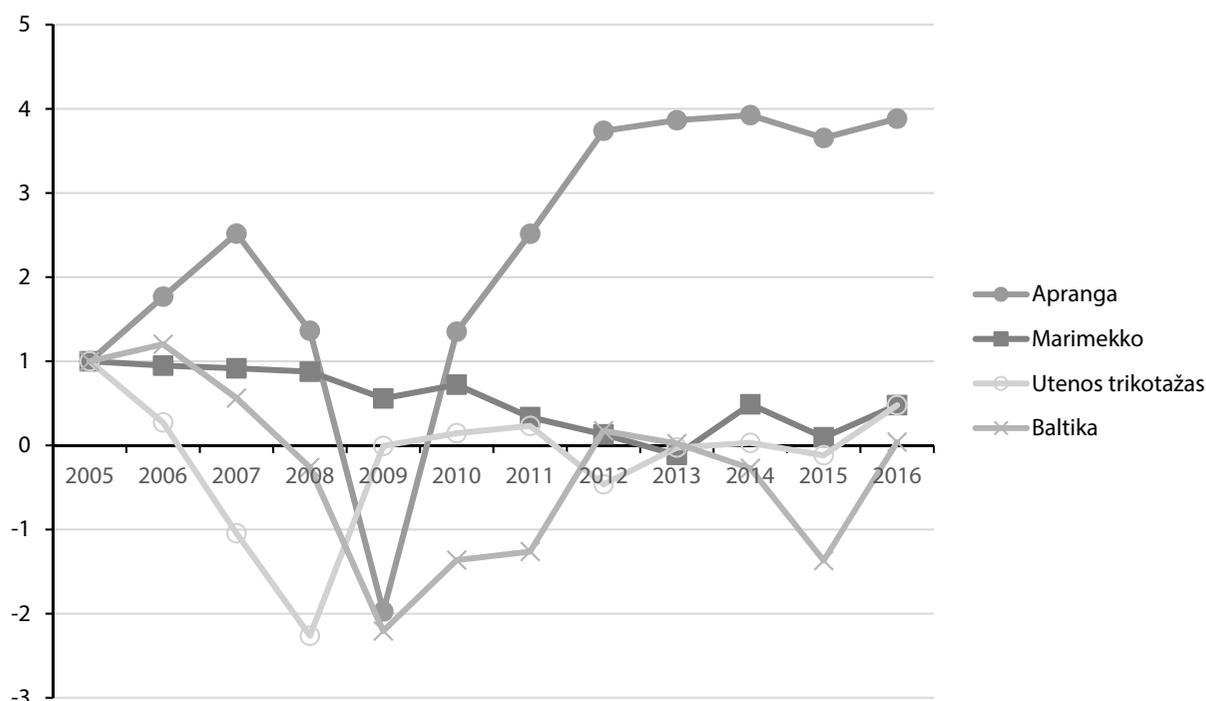

Fig. 8. *Profit and loss development (index) of Apranga, Marimekko, Baltika and Utenos trikotažas (year 2005 = 1.000) H&M and Inditex (Zara) during period of 2001–2016 (year 2001 = 1.000)*
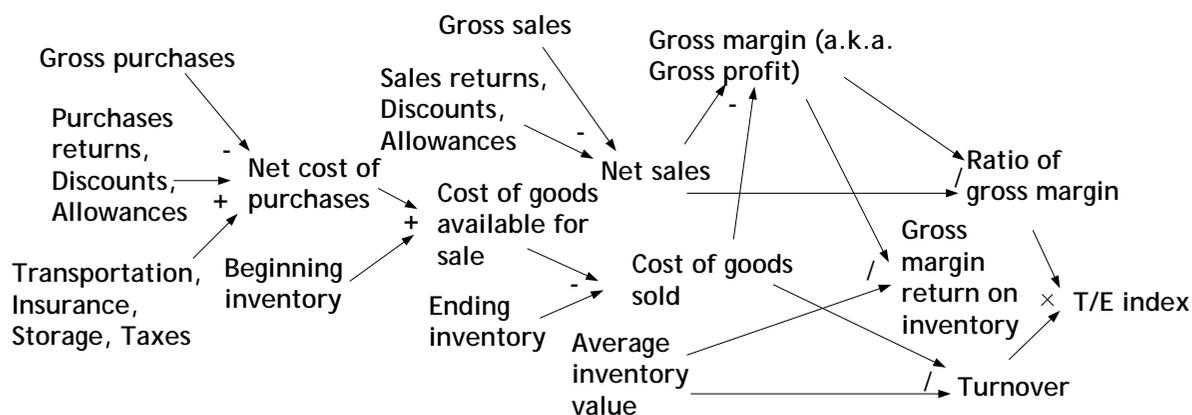
Fig. 9. *Modified DuPont Model [36]*

has basically significantly declined in the case of Baltika, and Utenos trikotažas. Also Marimekko has faced declining development in it. Only Apranga has been able to sustain its valuation somewhat. In the same time period stock market indexes of Baltic States (OMX Baltic Benchmark GI, 29.72 %) and Finland (OMX Helsinki, 8.38 %) have grown somewhat. The main challenge in case of Baltika and Utenos trikotažas is the lack of growth (see development over the years in Figure 7) — in Baltika, some growth has been recorded as years 2016 and 2005 are compared, but Utenos trikotažas has lost more than half from its sales (and with very small recovery; see Figure 7). Being a textile manufacturer has not been that rewarding — in Figure 8 is illustrated profit and loss development, where these two show significant loss years too. In contrary to these, retailer Apranga has shown very nice gains in revenues and profits (year 2009 being only anomaly to general good development in revenue and profits; see Figures 7 & 8). In profit-wise, the year 2016 was challenging to Baltika. It could be stated that in the year 2005, everything seemed to be under control, and profits soared among all of four companies — particularly Baltika and Marimekko performed so. However, last roughly ten years or so have been really the time of big change in the industry, and it seems that more local, manufacturing oriented, and smaller actors are still going through challenging times [5]. Even Marimekko has been facing declining profitability, with some recovery in recent years (Figure 8).

We also did analyze these four companies through inventory turns performance (out of their accounting records), and it seems that Utenos trikotažas and Marimekko are the two, which somehow reach the level of Inditex in this regard. Another two, Apranga and Baltika have both much lower inventory efficiency performance — during last five years, their inventory turns have ranged from two to three (so in the worst cases company has been holding inventory of half a year of production).

The reason we paid attention to the inventory turnover is that this indicator is tightly connected with the profitability of the company [36]. Such dependence has been identified in the modified DuPont Model (Figure 9).

The inventory turnover, if multiplied by the gross margin percentage, can be used for the calculation of the profitability performance indicator (Turn/Earn Index, Figure 9). This index helps companies to balance turnover and profits. For example, company can be successful with lower inventory turns, if it has high gross margins. Many companies justify keeping items in their warehouse for years because they bought the material for low price and will eventually sell some of goods for a premium price. In other words, companies' low inventory turns can be compensated by high margins.

However, it is obvious that turning inventory six times annually with lower average gross margin on every sale (20 % instead of 60 %) is more feasible and favourable for the companies. In this case, the T/E index would be 120 (6 turns × 20 %). If companies turn inventory only twice per year, it would force them to make an average gross margin of 60 % on every sale in order to achieve the same 120 T/E Index. It is evident that inventory turns hinder the potential for the two companies, but it remains as an open question, how much out of it could be realized. Apranga and Baltika both are having more than 100 stores, and even having these operational and lucrative for customers requires some level of inventory holding.

Apart from T/E index, another important characteristic is the profitability performance of the investment in stock inventory. The common profitability measures compare profits with sales, assets, equity: net profit margin, return on assets,

Table 2

Gross margin return on inventory in the three companies of Northern Europe (Marimekko excluded as it does not report gross profit)

	Gross profit		Inventory		GMROI	
Company	2005	2016	2005	2016	2005	2016
Apranga	21772,2	78162,0	11111,6	35428,0	1,96	2,21
Baltika	22438,0	23497,0	9233,0	11096,0	2,43	2,12
Utenos trikotažas	10824,5	4775,0	6915,5	4217,0	1,57	1,13

* Baltika Group — Investors. Retrieved from: http://www.baltikagroup.com/investors/ (date of access: 10.10.2016).

** Utenos trikotažas — Financial Reports. Retrieved from: http://www.nasdaqbaltic.com/market/?instrument=LT0000109324&list=2&pg=details&tab=reports (date of access: 10.10.2016).

*** Baltic Equity List. Retrieved from: http://www.nasdaqbaltic.com/market/?pg=mainlist&lang=en (date of access: 3.10.2016).

**** Marimekko (2016). Financial statements. Retrieved from: http://company.marimekko.com/sites/default/files/upload/Marimekko_Financial%20Statements%202016.pdf (date of access: 10.10.2016).

and return on equity, while the former profitability indicator takes a look at gross margin return on inventory (GMROI, Figure 9 and Table 2).

Similar to T/E index, the higher the value of GMROI is the better. This indicator shows the earning from every euro invested in inventory. Apranga and Baltika have reached good results in this regard; however, the latter company has a slightly downward trend, while Apranga increased its profitability. These companies have low inventory turns performance, but their inventory investment is justified with higher gross margins (as compared to Utenos trikotažas, which has high inventory turn, but GMROI is lower than Apranga and Baltika).

Location of companies and main nearby market of factories might also play a role in the analysis. It is commonly accepted that logistics costs (especially, transport and warehousing components) are the highest cost components alone that affect the price of the product. However, they are rarely found in profit and loss statements and balance sheet of companies that were the main source of data in the conducted analysis. Bowersox and Closs (2001) underlined this problem: traditional accounting practices and accounting of main types of costs, as a rule, do not contain adequate indicators of logistics costs.

As a result of many years of practice, a reporting methodology has been developed that meets the requirements of investors and tax services of the Federal, state and local authorities. Unfortunately, these generally accepted accounting practices are not fully consistent with the requirements for the evaluation of logistics costs. Meanwhile, one of the first works on the need to determine the relationship between accounting and logistics was the work of Michael Schiff (Accounting and Control in Physical Distribution Management, 1972 p.). Since this year on, scientists try to find the ways for calculation of logistics costs and identifying their relations to prices and companies main financial indicators.

Statement of profit and loss account shows the income and expenses related to individual transactions for a certain period of time. As the name implies, the purpose of the income statement is to determine the financial success of the operations. Data on logistics functions (warehousing, transportation, distribution, procurement) are an integral part of both documents of accounting (profit and loss statements and balance sheet). But practice shows opposite attitude: either managers or accountants of firms do not regard these costs as important enough to justify attention to them, or they are under pressure from the managers to whom these reports are supplied. It is difficult to find a logical justification for such a position, since logistics costs represented significant amounts that deserve a precise definition.

With considerable effort, the classification system can be changed in such a way as to identify freight and other costs of physical distribution as operating expenses and thus more closely correlate areas of responsibility with reporting results. So far, the method by which costs are recorded, classified and presented in the standard accounting reports has suffered a significant disadvantage that makes it difficult to estimate and analyze logistics costs. That is why this problem opens the doors for the new research.

The current analysis identifies the grounds for further study on the distribution and other logistics costs of companies. In particular, Apranga and Utenos trikotažas are originating from Lithuania, and this country itself as well as main markets nearby it is much larger than what Baltika's or Marimekko's location in up north could offer. Population in Lithuania is 2.9 mill., and it is next to Belarus (9.6 mill. inhabitants) and Poland (38.5 mill. inhabitants). Within not so long distance, exist Germany (80 mill. inhabitants) and Ukraine

(42.65 mill. inhabitants). These offer different market as compared to Baltika (and location of its operations in Estonia) — this country is next to Latvia, Finland, and St. Petersburg (Russia). The situation is similar in Marimekko. Population altogether of these four countries (Finland, Estonia, Latvia, and St. Petersburg region), is totally up to 15 mill. inhabitants. This leads to inevitable disadvantage — mostly present in the distribution and logistics costs as well as in the delivery response and inventory holding (as distance to larger markets needs always 500–700 km longer transportation task — this of course greatly depends to what extent production is completed in the northern region). The same logic applies in a positive side to Inditex (opposite situation) — it was in the beginning very strong in the Spanish market, and this offered appropriate domestic demand for consumer products.

On the other hand, textile companies are also changing business models and sharing risks to be more competitive and profitable in the global world. For example, Baltika is used successfully in rapidly changing markets, e.g. Russia franchise business model comparable to using own retail chain at more stable markets e.g. Estonia. Significant deficits in the year 2015 were explained by the change of this described business model — in the year 2015 exit decision was made out of the Russian retail business, which represented a major line of business of the Group. Before that in the year 2014, Baltika Group made an exit decision from the Ukrainian retail business (again resulting in increased deficits, not reported in Table 1) and using the same franchise model for sales. In the year 2016, the company was already showing some profits. These significant changes could explain in part low inventory turns. Similarly, Utenos trikotažas has reported difficulties in Russian and Ukrainian markets, and especially rapid devaluation of currencies, as a main profitability challenge in years 2014–2015. Baltika and Marimekko have both relied on their unique and niche type of brand — this must have aided in the difficult times.

Conclusions

In the mid-1990's free trade movement, and later on, country memberships as well as enlargement of WTO enabled some countries and companies to grow enormously in the following decade(s). It is interesting to note that Inditex and H&M have grown similarly in revenue, what has done countries in Asia within textile industry exports. Together with favourable sales and export performance, analyzed companies have considerably grown in size of retail stores, and have

shown constant profitability. In addition, activity has created long-term effects in terms of positive shareholder value. Only weakness within long-term analysis is the mushrooming of Inditex assets due to expansion (asset turns have remained in the same range within the entire period of 2001–2016), and slowly eroding ROI performance of H&M. However, it should be emphasized that these weaknesses are minor issues. Both analyzed corporations are in excellent financial condition, and provide net profits, what other companies cannot easily match.

As portrayed occurred change through the lens of the Baltic States and Finland, and four most significant companies presented in the stock exchange, we may conclude that period is not easy for European manufacturers. Even if these companies might have retail stores at disposal, the situation has not been flourishing for them. It is true that these companies lack the scale, what Inditex and H&M have, however, difficulties in nearby markets of Russia and Ukraine have also played their important part. As domestic markets are limited to these companies, it is difficult for them to find replacing export markets.

Companies were focused on the exporting strategy. For example, Utenos trikotažas: its products are popular in France, Germany, Sweden, England, Finland and Denmark. More than 80 % of company's products are export-oriented. However, once Utenos trikotažas left Russia and Ukraine, further expansion became problematic due to financial loses. Those markets were the cheapest ones and helped supplying products to Western Europe. Specifically, the market of Ukraine allowed significantly reducing the cost of production for the company. Baltika and Marimekko also used to gain benefits from these markets, as both companies have been active in internationalization. In year 2006, approximately 72 percent of Baltika's revenues came from abroad, and in 2016, this share was 56.4 percent. Marimekko has currently 44 percent share of sales to export markets (2016), while it was one-fourth in 2006.

It should be noted that from financial statement analysis, we did not find any superior performance out of the companies (e.g. inventory turns) either, only two companies out of four matched the inventory efficiency of the bigger rival. Within long-term, we may conclude that only one company, Apranga, has been able to show steady growth in revenues and profits. Its strength is the lack of manufacturing units as it is just concentrating on retail and warehousing operations.

Thus, given study paid attention to the retail and warehousing operations that sometimes lack

managerial focus. It was shown that comprehensive evaluation of the companies should take into account the impact of the variety of logistics factors (transportation, warehousing and inventory management) on the financial performance indicators of enterprises. One of the methods of value approach to business management is DuPont model, which makes it possible to trace the relationship between the two aspects of the company — logistics and investment. The DuPont model allows estimating the effect of individual factors on company's profitability. In particular, the provided modified DuPont Model identifies the profitability indicator, which takes a look at gross margin return on inventory (GMROI), as well as shows an important characteristic of the profitability performance of the investment in stock inventory (Turn/Earn Index). The inventory turnover is an indicator, which is tightly connected with the profitability of the company.

Such an approach to the analysis of companies' economic efficiency helps to trace the impact of the components of logistics operations (e.g. inventory management) from the lowest level to the highest level, affecting the financial performance of enterprises. In the further research, additional lower-level models for the calculation of performance indicators of logistics related activities (transportation, service, warehousing) can be proposed. Then, they can be integrated to the higher-level models, which compare profits with sales, assets, equity: net profit margin, return on assets, and return on equity. By doing so, the impact of lower-level performance indicators on the consolidated results of the company can be assessed.

For further research, it would be extremely fruitful to concentrate on asset efficiency in total and efficiency of different sub-classes of assets. As both analyzed global textile companies show, asset efficiency improvement is important and vital for the further improvements in ROI. Even if not reported, the situation is similar to three other smaller companies analyzed. It is difficult to be successful with small-scale manufacturing. However, total outsourcing of H&M has also shown its limits in performance (especially in year 2017, which is not part of our analysis, but it has happened, and it could be seen from our work, e.g. from ROI developing really unfavourably, which is caused by inventory turns in H&M case).

The textile industry itself is still offering appropriate gross margins (revenue less cost of goods sold), however, market changes, lack of scale and political situation could erode overall profitability performance. In this sort of environment, management of assets is a vital part of the success equation. To understand this properly, case studies in the industry should be completed in the forthcoming years.

References

1. Oh, H. & Moon, W. S. (2003). What is happening to the US textile industry? Reflections on NAFTA and US corporate strategies. *Journal of Fashion Marketing and Management: An International Journal, 7(2),* 119–137. doi: 10.1108/13612020310475456.

2. Buxey, G. (2005). Globalisation and manufacturing strategy in the TCF industry. *International Journal of Operations & Production Management, 25(2),* 100–113. doi: 10.1108/01443570510576985.

3. Caputo, A. C., & Palumbo, M. (2005). Manufacturing re-insourcing in the textile industry: A case study. *Industrial Management & Data Systems, 105(2),* 193–207. doi: 10.1108/02635570510583325.

4. Puig, F., Helena, M., & Pervez,N. G. (2009). Globalization and its impact on operational decisions. *International Journal of Operations & Production Management, 29(7),* 692–719. doi: 10.1108/01443570910971388.

5. Pekarskiene, I., & Rozita, S. (2011). Features of the Lithuanian manufacturing industry development in the context of globalization. *Economics and Management, 18(4),* 684–696. doi: 10.5755/j01.em.18.4.5846.

6. Lane, C., & Jocelyn, P. (2004). Globalisation and Labor Market Segmentation: The Impact of Global Production Networks on Employment Patterns of German and UK Clothing Firms. *The conference „Multinationals and the International Diffusion of Organizational Formas and Practices: Convergence and Diversity within the Global Economy" at IESE Business School, Barcelona 15–17 July,2004.* 1–25.

7. Moon, K. L., & Ngai, E. W. T. (2008). The adoption of RFID in fashion retailing: a business value-added framework. *Industrial Management & Data Systems, 108(5),* 596–612. doi: 10.1108/02635570810876732.

8. Mairesse, J., Pierre, M., Yanyun, Z., & Feng, Z. (2012). Globalization, Innovation and Productivity in Manufacturing Firms: A Study of Four Sectors of China. *ERIA Discussion Paper Series,* 2012(10), 1–34.

9. Hilletofth, P., & Hilmola, O.-P. (2008). Supply chain management in fashion and textile industry. *International Journal of Services Sciences, 1(2),* 127–147. doi: 10.1504/IJSSCI.2008.019608.

10. Moreno, J. de J., & Carrasco, O. R. (2016). Efficiency, internationalization and market positioning in textiles fast fashion: The Inditex case. *International Journal of Retail & Distribution Management,* 44(4), 397–425.

11. Wigley, S., & Moore, C. M. (2007). The operationalization of international fashion retailer success. *Journal of Fashion Marketing and Management, 11(2),* 281–296.

12. Gatawa, N. M., Aliyu, C. U., & Musa, S. (2013). Impact of Globalisation on Textile Industries: A Case Study of some Nigerian Industries in Kano Metropolis. *European Scientific Journal, 9(2),* 65–87.

13. Mazaira, A., Gonzáles, E., & Ruth, A. (2003). The role of market orientation on company performance through the development of sustainable competitive advantage: the Inditex-Zara case. *Marketing Intelligence & Planning, 21(4),* 220–229. doi: 10.1108/02634500310480103.

14. Lopez, C., & Yin, F. (2009). Internationalisation of the Spanish fashion brand Zara. *Journal of Fashion Marketing and Management, 13(2),* 279–296. doi: 10.1108/13612020910957770.

15. Taplin, I. M. (2014). Who is to blame? A re-examination of fast fashion after the 2013 factory disaster in Bangladesh. *Critical perspectives on international business, 10(1–2),* 72–83.

16. Viswaprakash, V., & Sentamilselvan, K. (2012). Globalization & trade in textile industry. *International Journal of Marketing and Technology, 2:5,* 201–209.

17. Butov, A. M. (2017). *The Market of Textile Production.* Development Centre. National Research University 'High School of Economics', 63.

18. Rustm.net (2017). *Market of the Light Industry, 117,* 10–14. Retrieved from: http://rustm.net/Magazines/RLP_117.pdf (date of access: 13.12.2017).

19. Maltsev, A. A., Mercier-Suissa K., Mordvinova, A. E. To the interpretation of the concept of «reindustrialization» in the conditions of globalization. *Ekonomika Regiona, 13(4),* 1044–1054. doi: 10.17059/2017–4-6.

20. Panova, Y., & Hilletofth, P. (2016). Infrastructure project portfolios for sourcing nearshoring of manufacturing to Russia. *Russian Journal of Logistics and Transport Management, 3(1),* 52–63. doi: 10.20295/2313–7002–2016–1-52–63.

21. Panova, Y., & Hilletofth, P. (2016). The role of intermodal traffic in the national economy. *Economics of Railways, 18(11),* 28–36.

22. Panova, Y., & Hilletofth, P. (2017). Feasibility of nearshoring European manufacturing located in China to Russia. *Operations and Supply Chain Management, 10(3),* 141–148.

23. Minakir, P. A. (2017). Expectations and realities of the policy of «Turning to the East». *Ekonomika Regiona, 13(4),* 1016–1029. doi: 10.17059/2017–4-4.

24. Zemtsov, S., Barinova, V., Pankratov, A., & Kutsenko, E. (2016b). Potential High-Tech Clusters in Russian Regions: From Current Policy to New Growth Areas. *Foresight and STI Governance, 10(3),* 34–52. doi: 10.17323/1995–459X.2016.3.34.52.

25. Ministry of Industry and Trade of the Russian Federation (2015). *Strategy for the Development of Light Industry in Russia,* Moscow, 38.

26. Dezhina I., and Ponomarev, A. (2016) Approaches to the Formulation of Russia's Technological Priorities. *Foresight and STI Governance, 10(1),* 7–15. doi: 10.17323/1995–459X.2016.1.7.15.

27. Zemtsov, S., Muradov, A., Wade, I., & Barinova,V. (2016a). Determinants of Regional Innovation in Russia: Are People or Capital More Important? *Foresight and STI Governance, 10(2),* 29–42. doi: 10.17323/1995–459X.2016.2.29.42.

28. Apokin, A., Belousov, D., Salnikov, V., & Frolov, I. (2015). Long-term Socioeconomic Challenges for Russia and Demand for New Technology. *Foresight and STI Governance, 9(4),* 6–17. doi: 10.17323/1995–459x.2015.4.6.17.

29. Gershman, M. (2013). Innovation Development Programmes for the State-owned Companies: First Result. *Foresight and STI Governance, 7(1),* 28–42.

30. Christofilopoulos, E., & Mantzanakis, S. (2016). China 2025: Research & Innovation Landscape. *Foresight and STI Governance, 10(3),* 7–16. doi: 10.17323/1995–459X.2016.3.7.16.

31. Moore, C. M., & Stephen, A. D. (2010). The evolution of a luxury brand: The case of Prada. *International Journal of Retail & Distribution Management, 38(11–12),* 915–927. doi: 10.1108/09590551011085984.

32. Carayannis, E., & Grigoroudis, E. (2016). Quadruple Innovation Helix and Smart Specialization: Knowledge Production and National Competitiveness. *Foresight and STI Governance, 10(1),* 31–42. doi: 10.17323/1995–459x.2016.1.31.42.

33. Plaksin, S., Abdrakhmanova G., & Kovaleva G. (2017). Approaches to Defining and Measuring Russia's Internet Economy. *Foresight and STI Governance, 11(1),* 55–65. doi:10.17323/2500–2597.2017.1.55.65.

34. Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed). Thousand Oaks: Sage Publications, 337.

35. Novikov, A. M., & Novikov, D. A. (2010). *The Methodology of Scientific Research.* LIBROKOM, Moscow, Russia, 281.

36. Lukinskiy, V. S., Panova, Y., and Soletskiy, R. (2016). Simulation modelling of supply chain with allowance of reliability. *Russian Journal of Logistics and Transport Management, 3(2),* 49–60.

Authors

Olli-Pekka Hilmola — PhD, Professor, LUT University; Scopus Author ID: 8352506000 (9, Prikaatintie, 45100, Kouvola, Finland; e-mail: olli-pekka.hilmola@lut.fi).

Andres Tolli — PhD, Associate Professor, Head of Centre for Maritime Studies, Tallinn University of Technology, Estonian Maritime Academy (101, Kopli, 11712, Tallinn, Estonia; e-mail: andres.tolli@ttu.ee).

Yulia Panova — PhD, Associate Professor, E-Commerce Department, Luoyang Normal University; Scopus Author ID: 37073231500; ORCID: 0000–0002–4218–5395 (A15–302, 71, Luoyang, 471022, Henan Province, China; e-mail: panovayulia87@gmail.com).