

# Assessing the Impact of the Current Financial and Economic Downturn on the Textile and Apparel Industry in Poland

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## Abstract

*In the long run a company can outperform rivals only if it can identify and establish a difference that it can preserve; in the short and medium run managers need to respond to a changing environment to preserve its growth capacities and exploit opportunities. Both external and internal factors affect the financial standing of companies operating in the textile sector. The current, extended economic downturn is slowly changing the environment. Managers need to take that into account by making appropriate changes in strategy and operations. In this study the author provides an analysis of economic and financial changes and an assessment of their impact on Polish textile companies. The article focuses on managers' response to current changes resulting from the financial crisis and on-going changes in increasingly competitive markets.*

**Key words:** textile industry, apparel, management, financial analysis, crisis.

## ■ Introduction

A company can outperform rivals only if it can establish a difference that it can preserve. Designers and sub-cultures, to some extent, influence demand but fashion is, to a large extent, unpredictable. Faced with competition from Asian manufacturers, European companies have restructured their operations. Downsizing, relocating to Asia and outsourcing led to a sharp decrease in European production of textiles and clothing in the 1980s and 1990s. Currently the greatest pressures for accelerated change within the EU textiles, clothing and leather-manufacturing sector come from:

- international trade issues: the elimination of textile and clothing import quotas that took place on 1 January 2005 and the ongoing negotiations on tariffs and non-tariff barriers (such as import charges and other taxes and duties). Although talks within the Doha Development Round of world trade stalled in 2008, further gradual changes seem imminent as low cost labor countries accumulate knowledge and upgrade production facilities,
- the global crisis that started in 2008, affecting most industries in developed economies. Volatile financial markets are placing a high premium on risk, thus factors such as a strong balance sheet and profitability gain in importance.

The response of the sector in the EU has centered on a move to higher value added goods (such as innovative industrial textiles or niche products), the sub-contracting of labor-intensive work or relocation of production facilities, the use of labeling to emphasise respect for labour and environmental regulations, and the im-

position of intellectual property rights to help counter large-scale copying or counterfeiting of designs, models, brands and trademarks. The trends seem to continue, while production is moving from country to country in response to increasing labour-costs.

Companies are continuously decreasing output and the sector has become dominated by small and medium sized enterprises (SMEs). Eurostat reports that textiles, clothing and leather manufacturing output declined by one third in the ten years through to 2007, at an average rate of 4.0% per annum, although the falls in 2006 (-1.3%) and 2007 (-0.6%) were much more moderate than this longer-term trend [1]. SMEs accounted for three quarters of sectoral value added and employment.

Sharp and unpredictable changes are the nature of this industry. Porter (1998) included textiles and clothing in industries characterised by the most intense competitive forces. Rivalry in this sector proved to be destructive as, in all but a few segments, it gravitated to price, transferring profits from companies and industry to its customers. Labour intensive manufacturers (e.g. clothing) in particular are characterised by fierce competition from low cost labour countries, such as Bangladesh, India and China. For many European textile companies this meant identifying market niches and focusing on marketing while sub-contracting production facilities.

Current changes should be put into historical context. Higgins and Toms quote the Oldham Master Cotton Spinners Association (OMCSA) statement from

the 1962 Annual Report: “*what needs to be said over and over again is that no matter how we reorganise ourselves along vertical lines ... we shall still not be able to compete with cheap Asian or subsidised imports. Vertical firms have suffered just as much as horizontal firms under the recent trading conditions*” [2]. Similar conclusions came from Japan, referring to a period following 1970s [3]. Current changes in the textile industry can therefore be perceived as acceleration in a long-term tendency of relocating production to improve effectiveness by decreasing costs.

The primary cause of the acceleration can be attributed to the lifting of trade barriers, but this view may be superficial in the light of changes in the financial sector. The globalisation of financial markets and advances in information technology are prompting investors to seek opportunities outside their home markets. Funds are relocated towards higher returns and growth opportunities. Increasing consumption in developing economies creates demand, revenue growth potential and investment requirements. With limited availability of funds this will lead to increased competition for funding and rising costs of financing. Following the outbreak of the crisis in 2008, cash holdings in businesses are increasing and the share of interest bearing debt financing is decreasing. Both changes seem to indicate that financial managers are aware of the forthcoming problem and are preparing to face it at least in the short term. Yet the question remains whether Polish companies are strategically prepared for the long-term changes resulting from increased global competition in financial markets.

The aim of this paper is to analyse recent changes in Polish textile and apparel manufacturing in the light of the current economic crisis. In crisis periods, as markets become volatile, management decisions depend largely on their perception of the future. This article focuses on managers’ response to changes.

## ■ Conceptual framework

Given the current conditions, Polish textile companies need to diversify by taking into consideration their resources and capabilities. Japanese companies have evolved in three models: technology-driven diversifiers, textile adherents, and market-led diversifiers [3]. Technol-

ogy driven diversifiers innovate, enter technologically related product markets and carry out substantial investments in R&D. Textile adherents attempt to improve their effectiveness in producing natural and synthetic textiles. Market led diversifiers focus on marketing and finance, often entering technologically unrelated markets. Similar patterns of diversification can be observed in Polish companies [4].

According to the well-established hypothesis, the direction of a company’s diversification is attributable to the matching of the nature of its available resources and capabilities to market opportunities in the environment. Firm-specific resources thus serve as the driving force of its diversification strategy [5].

Resources in this context are defined as tangible and intangible assets owned by the company [6]. Nelson and Winter, in their seminal paper, define capabilities as the company’s abilities to utilise resources efficiently [7]. Aswath Damodaran provides an alternative view proposing to divide assets into those in place and growth assets [8]. Similarity can be found under the assumption that growth assets (value created by future investments) will be created through capabilities. Unfortunately accounting based measures can support none of the above-mentioned approaches. Growth assets and capabilities may be reflected in stock market price (for example in the Price/Earnings ratio) but during a financial crisis these ratios are too volatile and do not necessarily reflect fundamental information from companies. Therefore it may be interesting to turn to classical, accounting based measures developed in the early XX century. The choice of simple ratios facilitates focus on the consequences of managers’ decisions. Finding the best practice solutions through more sophisticated models is tempting yet would be premature as the economy is still suffering from the current crisis.

Porter (2008) uses Return on Invested Capital (ROIC) as the “*appropriate measure of profitability for strategy formulation*” and *equity investors*[9]. He argues that return on sales (ROS) and the growth rate of profits fail to account for capital required to compete in the industry. Porter further states that this measure controls idiosyncratic differences in capital structure and tax rates across companies and industries. ROIC is calculated

by dividing earnings before interest and taxes by the average capital invested after subtracting excess cash.

Alternative measures include Return on Assets (ROA) and Return on Equity (ROE). Although ROA and ROE are regarded as classical, their use may be justified in a period of high volatility on financial markets [10, 11]. While neither ROA nor ROE control for capital structure and taxes, the restriction may and should be lifted when comparing companies operating in the same industry and during the financial crisis [12]. Tax rates of companies operating in the same industry are similar and, to some extent, dependent on geographic location choices. Capital structure becomes vital as investors’ risk aversion rises, increasing the cost and limiting access to financing.

ROA is calculated by dividing the net profit by the book value of assets. ROE is calculated by dividing the net profit by equity. Prior studies document that the DuPont analysis, which decomposes return on net operating assets into profit margin and asset turnover, have explanatory power with respect to changes in future profitability and investor relations [13].

Using the standard Du Pont model, ROA and ROE can be presented as:

$$ROA = ROS \times AT,$$

$$ROE = ROS \times AT \times CM,$$

where: ROE – return on equity (net profit divided by book value of equity), ROS - return on sales (net profit divided by revenues), AT – asset turnover (revenues divided by book value of total assets), CM – capital multiplier (book value of total assets divided by Equity).

ROE can also be calculated as:

$$ROE = ROA \times CM.$$

ROA describes the company’s profitability for strategy formulation, which can be analysed in two dimensions: return on sales and asset turnover. Return on sales measures the company’s ability to sell products at high profit margins. Asset turnover refers to effective use of assets (how much revenue does the company create compared to the book value of assets that the company owns).

ROE can be treated as an expansion of ROA calculation and includes the use of capital multiplier to boost return on eq-

uity. The value of the capital multiplier reflects the use of debt in financing. A higher level of debt increases the return on assets in companies that invest their funds at a rate higher than the cost of debt. The use of debt increases risk, as interest on debt is not dependent on profitability.

## Data description

The dataset used herein is based on survey data published by the Polish Central Statistical Office (GUS). GUS, in accordance with NACE classification, divides textile and clothing into manufacture of textiles (NACE section 17) and manufacture of clothing apparel (NACE section 18). The survey covers economic entities with 10 or more people employed (Total). The dataset has been limited to the period 2006 - 2011 in order to emphasise (rather than dilute) the effects of the current economic crisis. The number of entities (*Table 1*) in the manufacturing of textiles (Textiles) dropped during the period covered. The number of entities in the manufacturing of clothing apparel (Apparel) also declined, but the trend is not as clear as in Textiles.

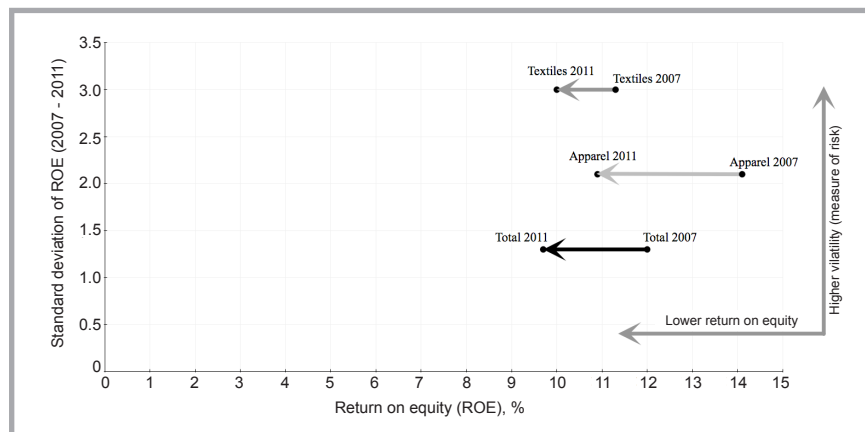
The subsections used in this dataset differ substantially. Although there are strong links resulting from textiles being used in the production of clothing apparel, visible differences arise due to asset requirements and distribution channels. This diversity enables comparisons, which in turn clarifies the conclusions.

As the methodology used in this paper is oriented at strategy formulation (aggregate data may not reflect those in a few year period), it is interesting to compare the results of individual companies. As Clothing apparel manufacturers differ substantially from textile manufacturing companies, it is necessary to focus on a particular group of companies.

The sample group represents companies, which currently have a significant share of the Polish clothing apparel market. PMR Publications estimates that the revenues of 15 leading clothing and footwear chains currently represent 51% of the clothing and footwear market in Poland [14]. Their share grew from 38% in 2006. This part of the analysis may serve as a benchmark for Polish clothing companies, but its main purpose is to exemplify the use of the Du Pont model in business assessment for strategic plan-

**Table 1.** Number of entities covered by the dataset; **Source:** own data, Polish Central Statistical Office.

	Number of entities					
	2006	2007	2008	2009	2010	2011
<b>Total</b>	47,048	48,165	53,148	53,847	53,220	54,189
<b>Textiles</b>	502	495	471	383	361	361
<b>Apparel</b>	686	663	601	611	540	511



**Figure 1.** Return on Equity (ROE) and standard deviation of ROE in Polish companies 2007 - 2011. Comparison of the Total, Textile manufacturers and clothing apparel manufacturers. **Source:** own, based on data from the Central Statistical Office of Poland.

ning. Data for this part of the analysis is taken from annual reports of the companies selected. Ratios are calculated based on data in currencies used in the reports. All of the companies selected use International Financial Reporting Standards (IFRS). One of the four companies selected has its headquarters in Poland.

## Textile and clothing apparel manufacturing analysis

Following the outbreak of the crisis, investors and lenders revised their portfolios in search for superior returns and new assessments of risk. This has strong implications for companies as many industries face changing financing constraints.

Return on Equity (ROE) dropped during the crisis in both Textiles and Apparel (*Figure 1*). Taking GUS Total as a benchmark, both sectors offered above average ROE in 2011. This should be perceived as a sign of strength. Comparing 2007 and 2011 results, Textiles experienced a modest decrease in ROE while Apparel saw a far more substantial drop.

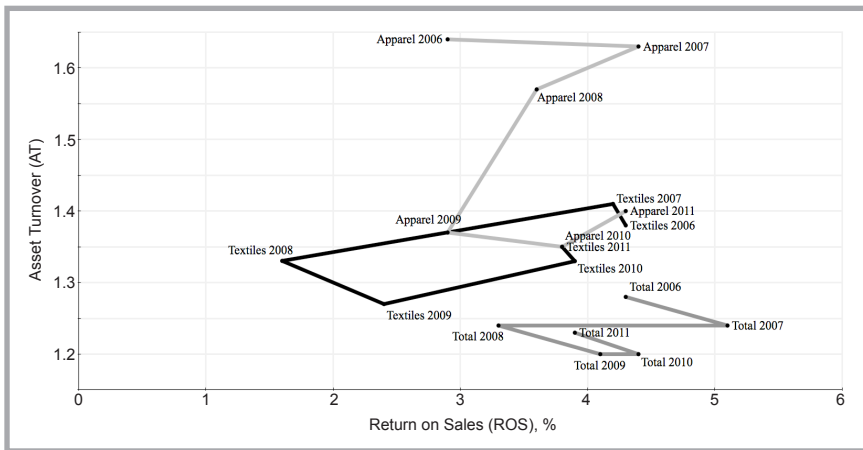
The volatility of the ROE ratio is gaining in importance as investors become more risk averse. Taking the standard deviation of ROE as a measure of volatil-

ity, both the clothing apparel and textile manufacturing sectors may lose their appeal to investors and lenders as relatively lower levels of ROE are combined with substantially higher standard deviations of results.

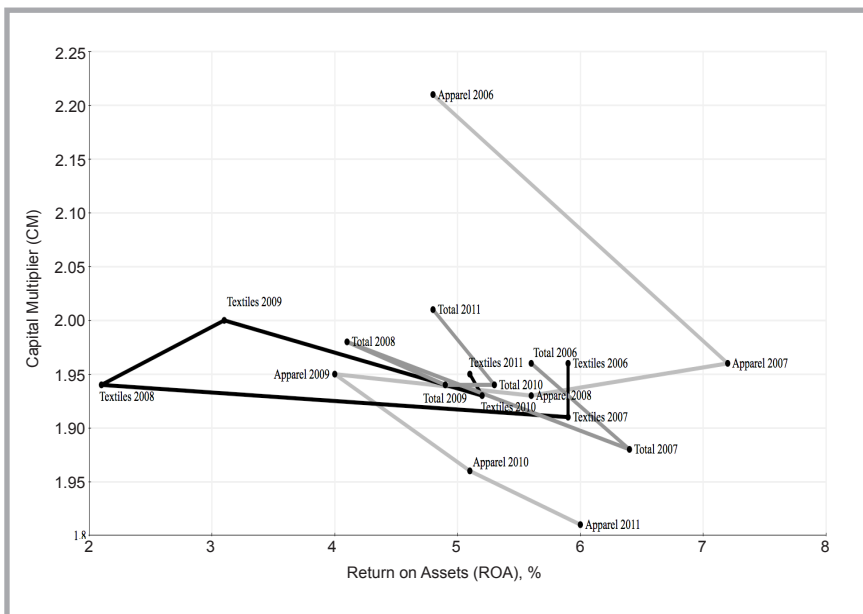
In mature industries companies should seek to offer both satisfying returns on investment and low volatility of results. This, of course, requires further analysis of why the particular section (or company) reports lower than expected values and above average volatility in ROE.

## Retrun on sales and asset turnover ratios

The effects of the current crisis varied among sections (*Figure 1*). All companies (TOTAL) included in GUS statistics recorded a decrease in Asset Turnover resulting from Total Asset growth, which exceeded growth in Revenues in 2007 and 2009 (Revenues measured in Polish Zloty did not decrease). In 2010 investments were scaled down to reflect slower Revenue growth. Profitability, measured by Return on Sales (ROS), fell from 5.1% in 2007 to 3.3% in 2008. In 2009 and 2010 companies gradually increased their profitability to 2006 levels (above 4%). In 2011 profitability fell slightly to 3.9% (please analyse also *Figure 2*).



**Figure 2.** Return on Sales (ROS) and Asset Turnover (AT) in Polish companies 2006-2011. Comparison of the Total, Textile manufacturers and clothing apparel manufacturers. *Source:* own, based on data from the Central Statistical Office of Poland.



**Figure 3.** Return on Assets (ROA) and Capital Multiplier (CM) in Polish companies 2006-2011. Comparison of the Total, Textile manufacturers and Clothing apparel manufacturers; *Source:* own, based on data from the Central Statistical Office of Poland.

In textile manufacturing both the Asset Turnover and ROS dropped in 2008. In 2009 a vast decrease in Total Assets and Revenues and rising Net Profit resulted in the gradual improvement of ROS and Asset Turnover. Current levels of ROS and AT are similar to that observed in 2006. The decreasing number of entities seems to indicate that many companies have disappeared from the sample (either by decreasing employment below 10 or by shutting down their activities). Remaining ventures were able to restore their profitability and activity ratios. The changes observed in 2008 and 2009 indicate that textile manufacturing companies are extremely sensitive to falling demand, which results in lower profitability. Asset turnover is relatively stable

as companies adjust their assets to changing revenues.

The results in Apparel indicate falling profitability in 2007, 2008 and 2009, as well as decreasing asset turnover during the period covered. The subsection that once provided superior results (to Textiles) has not been able to recover yet. Companies in this section increased both fixed and current assets in 2009. Profitability and asset turnover dropped as revenue growth proved to be below expectations. Although ROS increased in 2010, the asset turnover continued to fall. In 2010 and 2011 apparel companies decreased the value of their assets. In 2011 a vast decrease allowed for an improve-

ment in asset turnover values despite falling revenues.

Companies from both subsections reported decreasing ROA but for different reasons. Apparel companies assumed an aggressive approach in 2009 by increasing their investments in assets, while profitability fell. As a result, a drop in ROS was accompanied by a drop in AT. Textile companies adjusted investments in assets to decreasing revenues but they were not able to sustain profitability.

### Return on assets and capital multiplier

Analysis of ROA and CM provides further indications (**Figure 3**). In the TOTAL group, ROA decreased in 2008 as debt was used to finance investment in asset growth (increasing CM). In 2009 the capital multiplier stabilised as companies adjusted their investments to slower revenue growth. In TEXTILES the share of debt in financing increased, both in 2008 and 2009, as profitability fell. In 2010 the capital multiplier decreased as companies improved their profitability. In APPAREL the capital multiplier decreased due to continuing equity investments and profit reinvestment during the period. A sharp decrease in profitability accompanied by aggressive investment in 2009 led to a decrease in ROA.

Return on Equity of textiles manufacturers decreased mainly due to deteriorating ROA. In clothing apparel the decrease in ROE was amplified by the changing financing structure (decreasing the Capital Multiplier).

As the du Pont model is designed for strategy formulation it is interesting to compare individual companies. The sample includes companies that focused their strategy on marketing while subcontracting production capacities, mainly in cheap labour countries.

### Design, subcontracting and marketing focus in clothing apparel

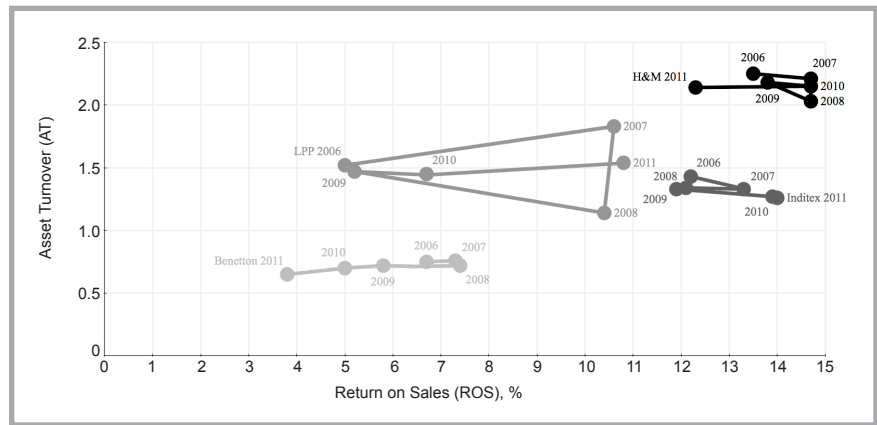
The effects of subcontracting are relatively difficult to identify in companies that supplement revenues resulting from the sales of own products with those of subcontracted merchandise. The consequences become more transparent when results of companies with own produc-



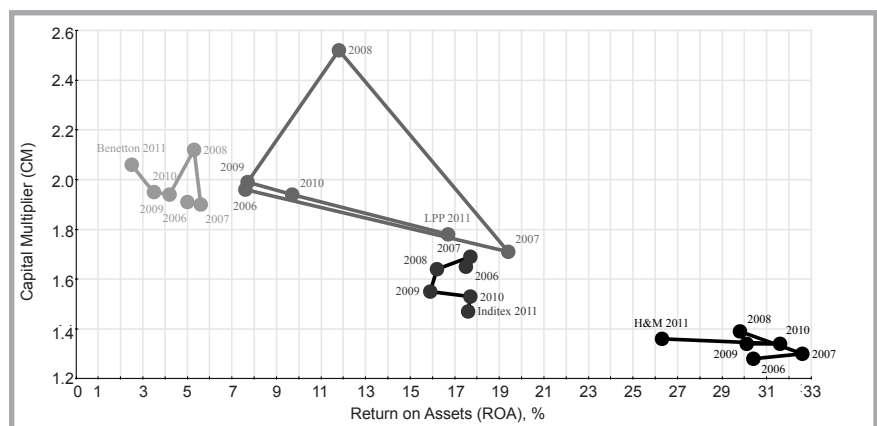
tion capacities are compared with those of intermediaries, whose revenues depend solely on sales of subcontracted merchandise. This is visible in major companies selling clothing and apparel. The Benetton Group S.p.A. (Benetton), with its headquarters in Italy, uses its own production capacities, H&M Hennes&MauritzAB (H&M), with its headquarters in Sweden, Industria de Diseño Textil, S.A. (Inditex), with its headquarters in Spain, and LPP S.A., with its headquarters in Poland, are corporations with business models based on outsourcing of production capacities. H&M, Inditex and LPP have negligible own production capacities, if any – e.g. Inditex employs 1% of its labour force in production. Including these companies in the manufacturing of clothing and apparel may be controversial yet one has to remember that some crucial steps are conducted in the company. Design, marketing and sales are performed internally. H&M does not own any production facilities nor any stores (all are rented). The company designs and distributes clothing apparel products. Inditex started as a production company and gradually transformed to focus on design, marketing and sales while building clusters of suppliers in various countries. Many manufacturing companies from various industries (e.g. computer hardware, electronics, cars) outsource parts of their production process. What actually makes them distinctive from retailers is that they design the products they sell.

Comparing the ROS and AT of Benetton, Inditex, H&M and LPP provides a clear view of profitability (measured in ROS and ROA) and activity (measured by AT). Benetton has published results indicating a comparably lower and decreasing ROA. The asset turnover is falling as revenues growth stagnates. Changes in H&M and Inditex are showing minor effects of the crisis. In both cases revenues are growing although at a slower pace. Managers have decreased investments. LPP has published results indicating comparably bigger changes in ROS and AT, which is in accordance with one of the observations made by Damodaran stating that return volatility is higher for younger, high growth firms than it is for more mature firms [8]. It has to be noted, however, that LPP conducted a substantial takeover (Artman S.A.) in 2008.

The level of indebtedness is higher in companies with lower ROA (*Figure 5*),



**Figure 4.** Return on Sales (ROS) and Asset Turnover (AT) in Benetton Group S.p.A., Hennes&Mauritz AB, Inditex S.A. and LPP S.A. in the period 2006-2011; *Source:* own, based on data from annual reports.



**Figure 5.** Return on Assets (ROA) and Capital Multiplier (CM) in Benetton Group S.p.A., Hennes&Mauritz AB, Inditex S.A. and LPP S.A. in the period 2006-2011; *Source:* own, based on data from annual reports.

as managers attempt to decrease the impact of lower ROA on returns to owners (measured by ROA). The Benetton Group, generating the lowest ROA in the sample, has the highest level of debt in its financing. Results published by LPP show comparably higher volatility, which can be explained by the takeover in 2008. Inditex and H&M contradict another observation that return volatility increases with the level of returns. [8] Managers may be able to sustain the company's level of returns if they can adjust investments to changing market conditions. This conclusion may not be valid for all industries, hence Damodaran's claim should not be rejected without further research into other industries.

The attractive results of the above-mentioned companies indicate that in current market conditions companies should build capabilities related to designing, co-operation [15], subcontracting and marketing and consider reshaping their business models [16, 17] in order to

improve the level of returns. For most Polish clothing companies a direct comparison to large corporations may seem controversial. Before the crisis this market was regarded as dominated by SMEs and largely diversified. During the crisis those large sales chains changed the market structure. With a majority market share and double-digit growth of revenues those corporations should at least be considered as benchmarks.

## ■ Conclusions and implications

Existing Polish textile manufacturing companies (employing more than 10 people) have gradually regained the levels of profitability and asset turnover from before the crisis. Unfortunately the number of companies, their revenues and assets continue to decrease. Polish clothing and apparel manufacturing companies report substantial drops in asset turnover and substantial volatility in profitability ratios. Textile companies have adjusted

assets to falling revenues yet profitability has fallen. The decrease in Return on Equity is combined with above average volatility of results, which may decrease the appeal of investment.

The Du Pont model is a tool that can be used to compare the results of individual companies, groups of companies and subdivisions of industry. Historical comparison allows to draw conclusions related to profitability, activity (measured by asset turnover) and capital structure. The model can be regarded as classical but improved access to data and computing opens new possibilities for benchmarking. It is especially useful during crisis periods, when financial markets' volatility distorts results based on asset valuation.

Both textile and clothing apparel companies should analyse their business models in search for higher returns. Global markets and rising labour costs are decreasing the attractiveness of labour intensive manufacturing in Poland and companies need to identify and exploit their capabilities in entering technologically related product markets or altering their business models to focus on design and marketing. Unfortunately finance and accounting models do not provide solutions to business models outside of financial markets. They provide quantitative targets and benchmarks; they may inspire to action, but the plans have to be based on engineering and marketing expertise.



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