THE FIBER YEAR
CONSULTING

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The Fiber Year 2015

World Survey on Textiles & Nonwovens

THE FIBER YEAR CONSULTING

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1.2 Summary

Surprises during Work in Progress

The compilation of every report at the beginning of the year starts with national time series that need to be extrapolated, estimates and monthly projections from ICAC. A few months later, the global picture on manufacturing activities becomes more accurate. It has formed the notion mid-April that consumption has considerably slowed and the natural fiber segment has experienced faster growth than cellulosic and synthetic fibers. Official data from China Chemical Fibers Association (CCFA), however, have delivered a surprising growth of manmade fibers production. It has led to global growth even accelerating over 2013. Although world data on manmade fiber stocks are not available, Chinese dynamics allow the assumption that inventories have been built up.

World Fiber Production and Use

The production volume in the world textile industry in 2014 rose by 3.4% to 96.0 million tonnes. This includes an increase of 4.9% in the manmade fiber segments and 0.7% growth of natural fibers. Manmade fibers succeeded to produce higher growth rates in the third consecutive year.

As a matter of common knowledge natural fibers production is not precisely projectable due to climatic and other natural imponderabilities. Hence, annual cotton production is quite often in no accordance with consumption. It needs to be adjusted while basically manmade fiber stocks are controlled to match demand. As global cotton stocks have been traced by international organizations like ICAC, consumption figures for cotton are included in a world-fiber-use figure. This data delivers a more accurate indication of the volumes for subsequent processing in weaving, knitting and nonwovens.

Referring to this approach, last year's use of fibers accounted for 93.7 million tonnes, up 4.1%. This market size corresponds with an average per capita consumption of 13.1 kg.

Fiber Market Dynamics

The market has unabatedly shifted toward manmade fibers which currently occupy a 67.5% share, up from 54% in 2000. The manmade fiber growth outperformed natural fibers in the fifth consecutive year with cotton use included.

Last year's dynamics within the manmade fiber business have changed in favor of synthetic fibers after a three-year period of cellulosics enjoying more rapid growth. However, growth momentum has cooled for synthetic and cellulosic fibers.

Trading Activities

The joint export value of the ten largest textile and clothing exporting countries including EU(28) extra trade rose 5.2% to USD557 billion. Double-digit growth rates were achieved in Vietnam, India and Bangladesh. Strong Vietnamese growth of 17% seems to be a foretaste of future duty-free access to the U.S. market after the Trans-Pacific Partnership agreement has been put into effect.

Corresponding imports into the ten most important nations including EU(28) extra trade amounted to USD395 billion, up 2.6%. Strongest growth was again observed in Vietnam at 13% to fuel downstream operations.

The joint EU(28) and U.S. trade deficit has further widened by USD10 billion to reach USD158 billion. The Chinese industry, undisputed leader in this business, has arrived at a surplus of USD275 billion.

Characteristics in 2014

Massive investments in the both PX and PTA industries in the polyester chain will lead to overcapacity at unprecedented size. A similar surge of CPL capacity for nylon 6 products in PR China mainly will intensify the necessity to restructure as higher self-sufficiency of the Chinese industry will largely replace imports.

Chinese capacity additions in spinning equipment are slowing and textile machinery imports declined below USD4 billion last year. Meanwhile, Vietnam experiences a wave of new investments and expansions of existing capacities and the U.S. industry enjoys a formidable reversal of trend with multi-billions of US Dollar investments.

Two ambitious free trade agreements are currently under negotiation, TPP and TTIP, which may impact global trade flows once they became effective.

1.4 Contributions from Industry Experts:

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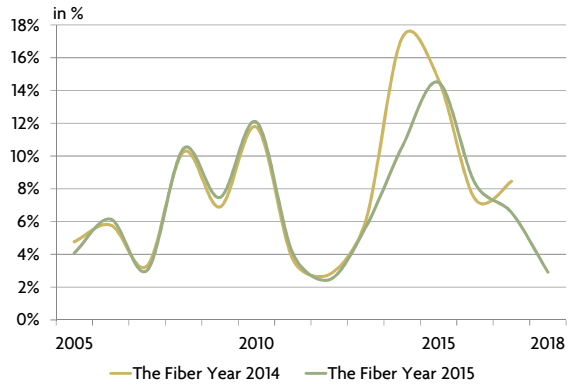
3.4.1 Paraxylene (PX) 2005 - 2018

PX is the key feedstock for the production of purified terephthalic acid (PTA) and dimethyl terephthalate (DMT). It is almost exclusively used in the polyester chain for fibers, films and bottle resins.

The below chart shows slowing dynamics in capacity build-up compared with the figures from the previous report. Reasons are already existing excess capacity, squeezed margins, delay of implementations and slower than expected growth rates from downstream demand.

PX Dynamics in Capacity Additions 2005-2018



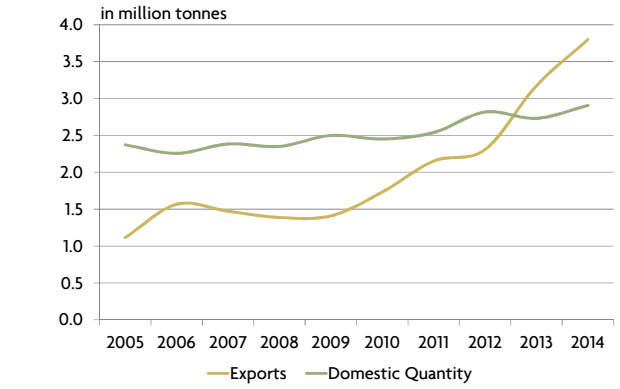
The industry has experienced quite different cycles recently. The year 2002 was characterized by the first decline in global capacity, followed by a five-year period with average annual growth rates of 4.5%. Afterwards, expansions between 2008 and 2010 shot up to average at 10%. The period 2011 to 2013 was characterized by slowing expansions, accounting for an average annual growth rate of 4.0%. Meanwhile, the period 2014/15 is expected to witness double-digit growth rates. Dynamics in the following years will considerably cool down.

New manufacturing facilities coming on-stream in 2014 were located in Asia and Middle East, the 290,000-tonne unit from Teijin Ltd. in Japan was permanently closed in March 2014.

Three new plants were commissioned in Korea in the second half 2014 with a joint capacity of 3.3 million tonnes. The new Foreign Investment Promotion Act, passing National Assembly in January may have advanced expansions. Samsung Total Petrochemicals, a joint venture between Samsung and Total, has inaugurated its new 1.0 million-tonne plant in November. Ulsan Aromatic Corp., a joint venture from SK Global Chemical and JX Nippon Oil & Energy, has unveiled its new facility with the same capacity in October. SK Energy, fully owned by SK Innovation, has put into service its new plant with a capacity of 1.3 million tonnes in the fourth quarter as well.

It is consequential to see Korean industry further expanding capacity as utilization rates over the previous ten years were gorgeous. Although, it also came along with rising paraxylene stocks that doubled in recent five years to 1.6 million tonnes end of 2014.

Korean PX Exports and Domestic Quantity



Source: Korean Statistical Information Service

Vast majority of the new Korean capacity is destined for exports and shipments abroad accounted for more than half of production for the first time ever in 2014.

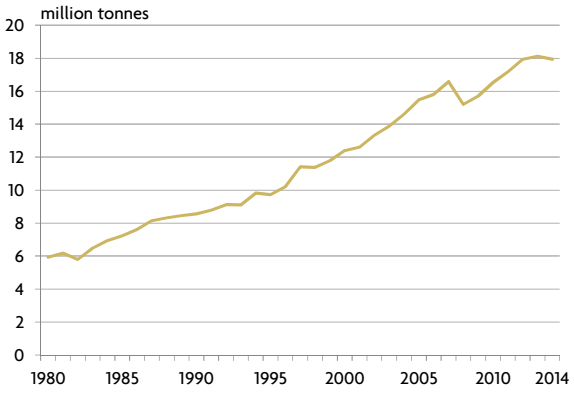
Two projects in PR China, initially scheduled for end of 2013, were put into operation in the first quarter of 2014. Qingdao Lidong Chemical Co. Ltd. has expanded its plant by 300,000 tonnes to 1.0 million tonnes and Sichuan Petrochemical, subsidiary of China's major oil and gas producer PetroChina, also has started-up its 650,000-tonnes manufacturing plant.

Two new plants with a capacity of 700,000 tonnes each were brought into service in Saudi Arabia from Saudi Aramco Total Refinery & Petrochemical Co. (SATORP) in Jubail and Yanbu Aramco Sinopec Refining Co. (YASREF) in Yanbu.

4.3 Synthetic Staple Fibers

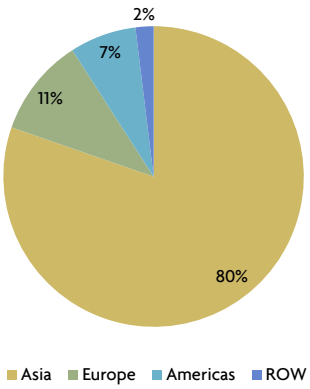
World synthetic staple fiber production decreased by 1.0% to 17.9 million tonnes, which was the steepest drop since 1995 when neglecting the economic slump in 2008.

Development of Synthetic Staple Fiber Market



The Asian share remained at 80% after production decreased 0.9% to account for 14.3 million tonnes. The Americas went down 1.2% to 1.3 million tonnes while European output was 2.2% lower at 1.9 million tonnes.

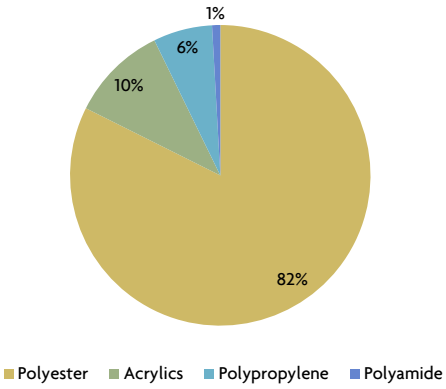
Regional Synthetic Staple Fiber Production 2014



All fiber types suffered from declining production but the dominating fiber type polyester managed to lift its share to 82%. The remaining fiber types are continuing their long-term contraction.

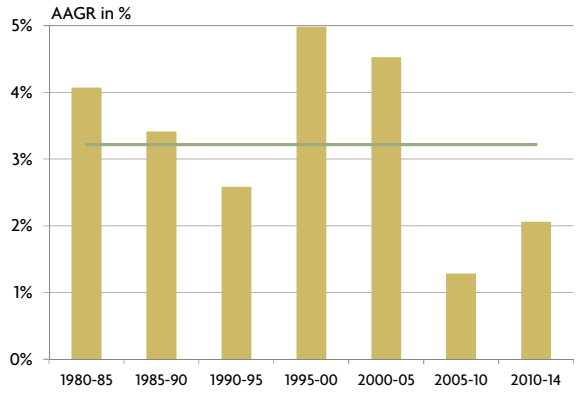
Polyester is the most relevant fiber of choice for blends with cotton. Surging cotton yields after approval of genetically modified crops in the year 1996 have directly impacted the market and stimulated soaring polyester investments. This fiber has enjoyed robust dynamics since the 1980s. Average annual growth rates account for 4.8% since 1980 compared with 2.6% in cellulosics and 1.1% in natural fibers.

Composition of Synthetic Staple Fiber Market 2014



The performance in the recent ten years clearly shows much lower growth rates. The reasons for this performance may be versatile; supply of cotton has contributed to this weakness like the price relation to competing materials and the rising tendency of filament yarns.

Dynamics in Synthetic Staple Fiber Production

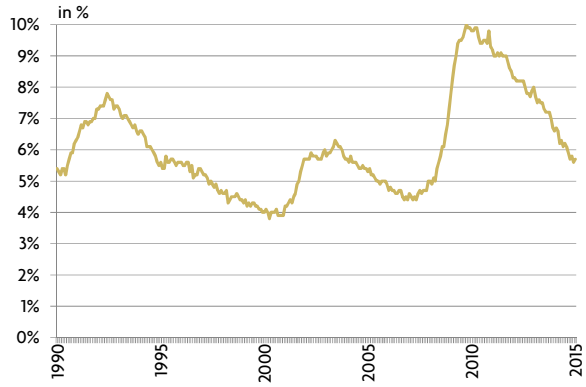


9.20 United States

Textile & Clothing Trade	2013	2014	y-o-y
Export (USD billion)	23.7	24.4	+2.9%
Import (USD billion)	104.7	107.5	+2.6%
Trade Balance (USD billion)	**-81.1**	**-83.1**	

The U.S. GDP growth was the strongest in four years at 2.4% despite a negative quarter-to-quarter growth during January to March. The unemployment rate continued falling to reach 5.6% in December, the lowest level since June 2008.

USA: Unemployment Rate



Source: Bureau of Labor Statistics

The consumer confidence, delivering an indication for future buying behavior, has improved at the same time to reach an eleven-year high in January 2015.

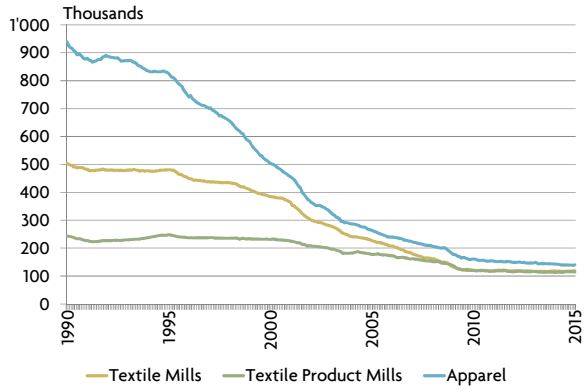
USA: University of Michigan Consumer Sentiment Index

Source: University of Michigan

The U.S. shale gas revolution has cut energy costs, fueled private consumption and led to several investments in energy-intensive manufacturing with multiple projects targeting the textile chain. The American Chemistry Council had disclosed 226 chemical industry investments related to shale valued at USD138 billion announced as of April 2015. That is a stunning reversal to the former trend when U.S. plants were closed or capacity relocated to the Middle East and no investments were in the pipeline.

A small change in textile employment was already visible last year when the both groups of textile mills and textile product mills witnessed the first increase in number of persons employed since the year 1994, rising 1.1% to 234,200 at year-end. Optimism to the future may be appropriate as given below in the development of job numbers. The long-term view, nevertheless, describes a substantial loss of workplaces, down from 1.69 million in January 1990 to 374,400 in January 2015.

USA: Employment in Textiles and Apparel



Source: Bureau of Labor Statistics

The U.S. industry experiences a formidable reversal of trend with multi-billions of US Dollar investments. Not all of the textile-related investments listed have Dollar amounts, but anyway add up to more than USD5 billion.