

THE EFFECT OF NAFTA ON THE US SPINNING INDUSTRY

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Abstract

The purpose of the research presented in this paper has been to examine the effects of NAFTA on the US short staple spinning industry. Yarn, particularly cotton, plays a critical role in the apparel supply chain, and therefore the factors that affect yarn, in turn, also affect apparel. Since the inception of NAFTA in 1994, many changes have taken place in the US short staple spinning industry, as well as the entire textile and apparel industry. However, this paper will examine current trends, which have resulted primarily from NAFTA, but also the Asian financial crisis. Specific focus will be given to yarn production levels, price, imports, exports and labor.

Keywords: yarn spinning, market trends, yarn market trends, NAFTA

Introduction

Recently, there has been a great deal of attention given to the decline of the US textile and apparel industry, particularly the causes surrounding the decline. Many observers blame dumping by South-East Asian countries, particularly China, in addition to the Asian financial crisis for this decline. Others, however, credit the decline mainly to the North American Free Trade Agreement (NAFTA). NAFTA was implemented on January 1, 1994, and began liberalizing trade and investment rules between the United States, Canada, and Mexico. For textile products, the US reduced tariffs and expanded quota-free access for items constructed from yarn and fiber produced by a NAFTA country. Theoretically this agreement, as well as other regional trade agreements, such as the Trade and Development Act (TDA), should have increased the demand for basic US textile commodities, since the details of agreements of this type include a "yarn forward" clause. However, what *should* happen is not always what *does* happen.

A vast amount of research has been done surrounding the effect that NAFTA has had on the US apparel industry. However, very little has focused specifically on the US short staple spinning (cotton) industry. Due to industry dynamics, it is imperative to study the entire supply chain, not just the final end product. Yarn is vital in the production of apparel, and changes in the yarn market 'trickle' down to affect the apparel market. Therefore, this paper will concentrate on the yarn market. In addition to this, the research objectives of this paper are 1) to examine trends in the US short staple industry, 2) to examine US imports and exports of yarn, and 3) to analyze how these recent trends can be related NAFTA.

Recent Trends in the US Short Staple Spinning Industry

Yarn Production

While exhibiting a general upward trend, U.S. yarn production varied considerably from year to year until 1990, when it began to increase steadily. But in 1994, NAFTA was implemented, and yarn production began to decrease. This trend is clearly evident in Figure 1. Figure 2 shows the yarn production over the same time period for Mexico and Canada.

Yarn production decreased in the U.S. after the implementation of NAFTA due to the industry moving mainly to Mexico and (to a much lesser degree) to Canada. Figure 2 shows that the yarn production of each of these countries has increased since the implementation of NAFTA.

Mexico's yarn production has increased by 211.09% since 1994, and Canada's has increased by 51.04%. Yarn production in the U.S. has decreased by 10.71%. The 211.09% increase in Mexico appears to be much more dramatic than the US's 10.71% decrease. However, Mexico was only producing 158.0 metric tons of yarn in 1993, the year before NAFTA was implemented. Since 1994, Mexico's yarn production has increased by 342.6 metric tons, and the U.S.'s has decreased by only 211.3 metric tons. This shows that much of the yarn no longer produced in the U.S. is most likely being produced in Mexico.

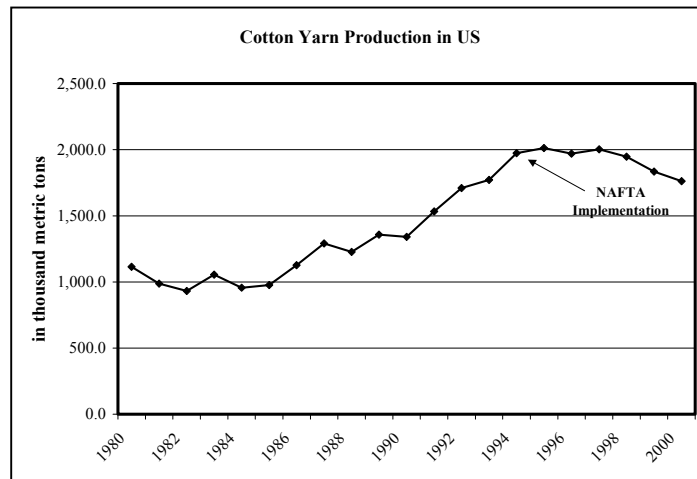


Figure 1: Cotton Yarn Production in the US

Source: International Cotton Advisory Committee. (2001). *World Textile Demand*. Washington, DC: ICAC

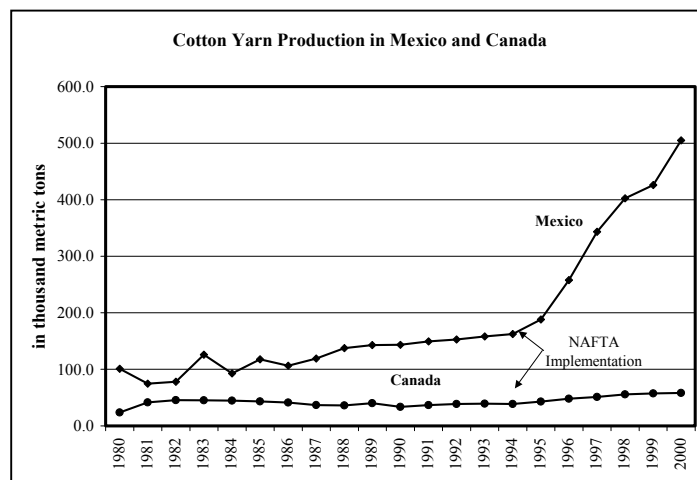


Figure 2: Cotton Yarn Production in Mexico and Canada

Source: International Cotton Advisory Committee. (2001). *World Textile Demand*. Washington, DC: ICAC

Figure 3 shows the total yarn produced in North America compared to that produced in the U.S., Mexico and Canada.

Figure 4 shows the percentages of each of these countries of total North American yarn production, and this figure simply reinforces the points made by Figure 3. In 1994, the U.S. produced approximately 90% of yarn in North America. In 2000, the U.S. produced a little less than 80%, but Mexico has produced the remaining 10%, with Canada's change being negligible.

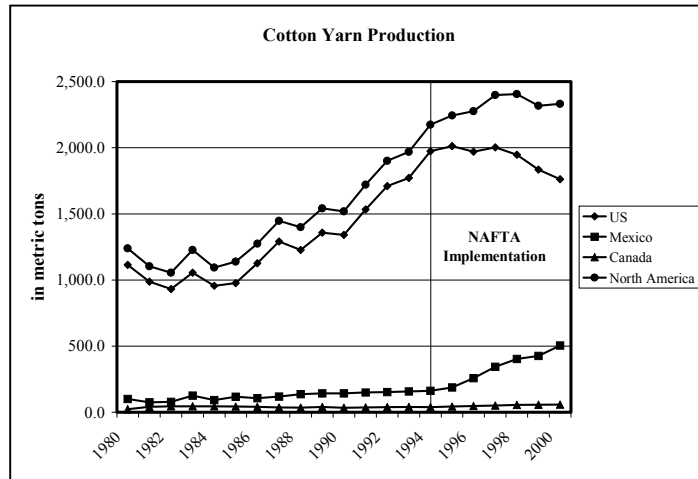


Figure 3: Cotton Yarn Production for North America
 Source: International Cotton Advisory Committee. (2001). *World Textile Demand*. Washington, DC: ICAC

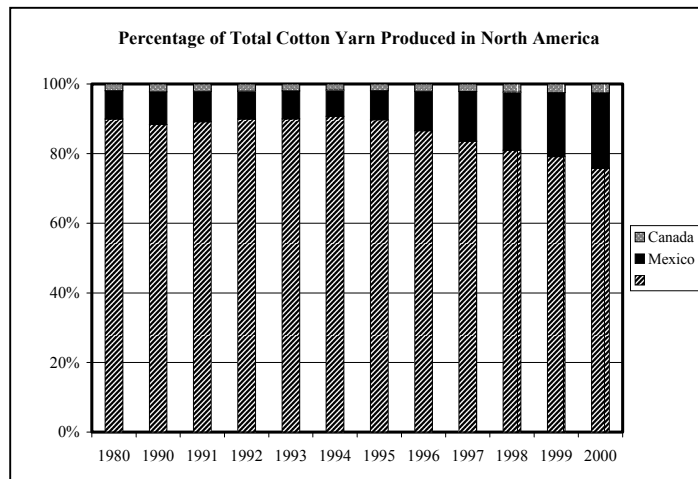


Figure 4: Percentage of Cotton Yarn Produced in North America
 Source: International Cotton Advisory Committee. (2001). *World Textile Demand*. Washington, DC: ICAC

Yarn Price

In addition to the production trends taking place in US short staple yarn production, the prices of these yarns also reflect changes taking place in the market. Figure 5 shows prices for the same yarn count (10/1) spun on two different spinning technologies from 1985 through 2001. The first technology is ring spinning, which is the slower, conventional spinning method, with production rates of approximately 20 yards per minute. The second is rotor spinning, which is a modern, higher speed technology, with production rates of approximately 200 yards per minutes. The price of yarn is very volatile and is affected by many factors, including raw material costs, input costs, etc. Also, yarn is considered a raw material and directly affects the cost of the end product, i.e. apparel. This figure illustrates that ring and rotor yarn prices seem to follow the same path, even though rotor spun yarns appear to be decreasing at a slightly faster rate than ring spun yarns.

Before the implementation of NAFTA in 1994, yarn prices rose and fell, which was most likely related to various market trends. However, after 1994, yarn prices immediately increased for a short time, but have steadily decreased since 1996. This is obvious in Figure 5, despite the short-term variation. The decline of prices of both ring and rotor yarn is most likely related to the decrease in the demand for domestically produced yarn due to increased imports from Mexico.

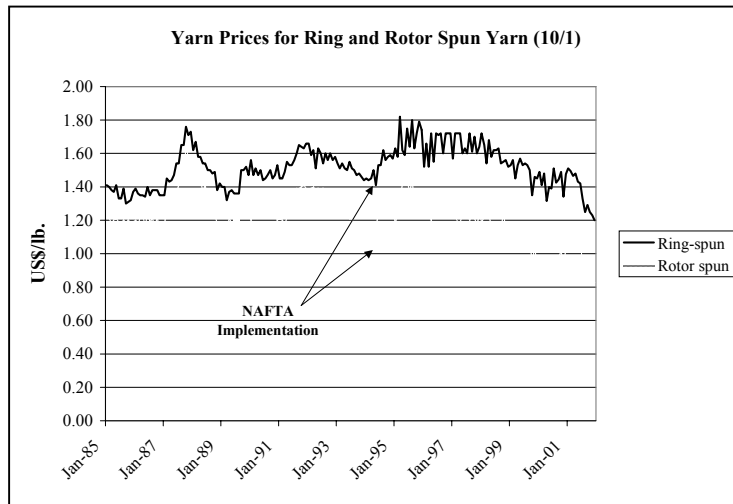


Figure 5: Yarn Prices for Ring and Rotor Spun Yarn
 Source: Rudy, J.K. (1985-2001). *Yarn Market. Textile Industries.*

US Trade in Yarn

On one hand, simply looking at yarn production and price shows a somewhat dim forecast for the US textile industry. On the other hand, these are just domestic figures. It is important to examine the US short staple yarn industry from an international context. Figure 6 shows the US cotton yarn imports and exports from 1980 through 1999.

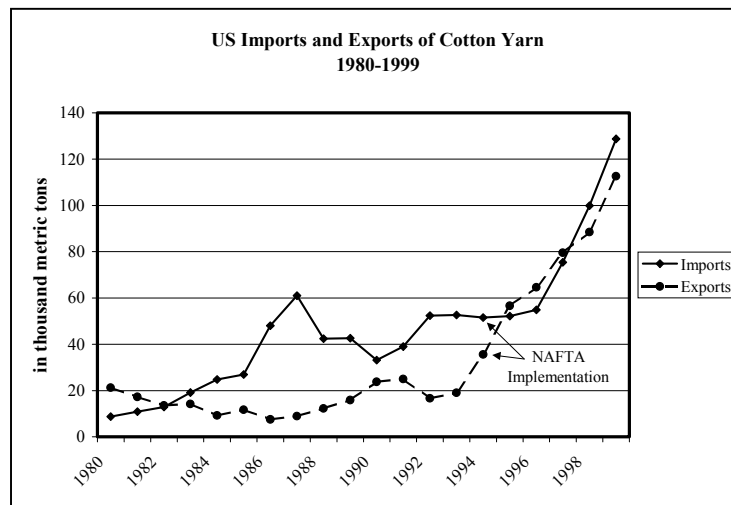


Figure 6: US Imports and Exports of Cotton Yarn
 Source: International Cotton Advisory Committee. (2001). *World Textile Demand. Washington, DC: ICAC*

This figure illustrates how from around 1983 until the implementation of NAFTA, the US imported more cotton yarn than it exported. However, in 1995, after NAFTA began to take effect, US exports actually *exceeded* its imports, resulting in a trade surplus. Unfortunately, in 1997, imports began to rise again, resulting in a reversal of the previous surplus. This influx of imports is mainly the result of the Asian financial crisis and not NAFTA. US cotton yarn exports still continue to rise, but imports rise at a faster rate.

It has been stated that until the Asian financial crisis, the US textile industry as a whole was in one of its most profitable periods in history, and "was meeting Asia head-on and holding its own" (Hayes, 2001). Figure 6 illustrates this to be true. NAFTA was having the desired effect, due to the yarn-forward pacts, but when the currency crisis hit Southeast Asia, the US textile industry was simply not capable of competing with Asian products that were being sold *below* production cost in the US market.

US Labor Market

Another important aspect to consider when studying the effects of NAFTA on the US short staple industry is the issue of job losses and/or job creation. When NAFTA was established, it was promised that this trade agreement would create hundreds of thousands of jobs for US workers. However, it is very difficult to determine how many US textile and apparel jobs have been created or lost as a direct result of NAFTA. When looking at a pro-trade source, over a hundred thousand jobs have been *created* because of NAFTA; when viewing a pro-labor source, however, over a hundred thousand jobs have been *lost* because of NAFTA. It is nonetheless safe to assume that the jobs that have possibly been created are not in the US textile industry. Figure 7 shows average US textile employment from 1985 through 2001.

This figure shows how US textile employment has steadily decreased since NAFTA's implementation in 1994. It is important to note that these statistics are for the entire US textile industry, and not just short staple spinning. Despite this, the trend in textile employment is obvious. However, the decline in textile employment is not *only* related to NAFTA. Significant technological advancements have been made in order to increase the efficiency and productivity of the US textile industry. As the machinery becomes more automated, and therefore more productive, fewer workers are required. US textile companies have focused research and development on automation in order to become more competitive with imports from low wage countries. This would certainly be one of the causes for a decline in US textile employment.

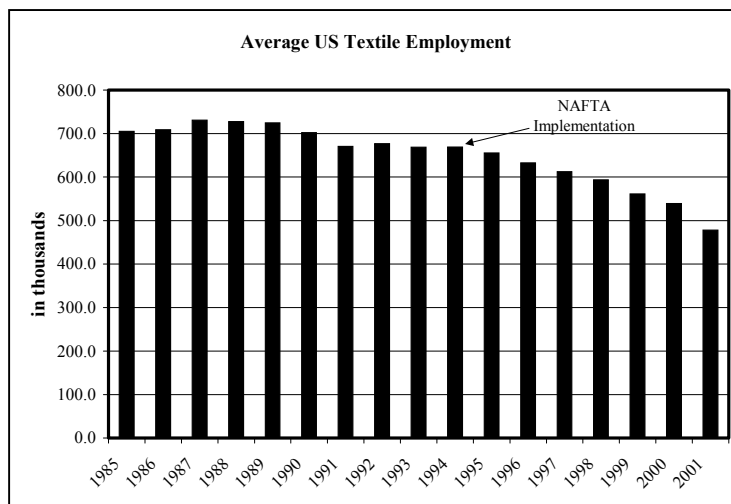


Figure 7: Average US Textile Employment

Source: Soras, C.G. (1985-2001). *Business and Financial. Textile Industries.*

Conclusions

This research has focused on only one part of the apparel supply chain: yarn. It appears that the fall in the US cotton yarn production post-NAFTA could be explained purely by the increase in cotton yarn production in Mexico and Canada. However, the situation changed after the Asian financial crisis, when the impact of significantly lower yarn prices began to outweigh the benefits of the NAFTA agreement, when US imports of yarn began to increase at a faster pace than US exports of yarn. Both NAFTA and the Asian financial crisis have put severe downward pressure on yarn prices as well as on the level of US textile employment.

References

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