UNIVERSITY OF CAPE TOWN : MINI DISSERTATION, IN PARTIAL FULLFILLMENT OF MASTERS IN COMMERCE (ECONOMICS)

Trade Liberalization and Firm Dynamics: Evidence from Indian Firms

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Abstract:

This paper aims to investigate the firm level effects from the removal of trade barriers. It uses firm level data on Indian firms, and employs simple but effective specifications aimed to analyze the differential effects in sales and prices of goods previously quota bound compared to unbound products. Findings are consistent with quota theory and are robust. Estimates show a 20% increase in sales value of previously quota restricted products, post 2005, as well as a 5% decrease in prices. In addition a significant contribution to firm level data analysis and compilation is made. [1]

[1] Word Count : 10500

Acknowledgements:

- Thank you to Asha Sundaram and Lawrence Edwards – University of Cape Town, for their guidance, patience and expert advice.
- Thank you to Amit Khandelwal – Columbia University, Graduate School of Business - for the provision of valuable data concordances.
- Thank you to Data First – University of Cape Town

1. Introduction

Empirical research has documented substantial increases in productivity and income as a result of trade liberalization (Pavicnik 2002, Feyrer 2010 and Khandelwal *et al* 2008). However there is limited empirical research into the behavior of firms as a result of trade barrier removal. This paper aims to investigate the influence that trade barrier removal has on firm dynamics. This study is motivated by the need to gain understanding of firm dynamics, within large developing country firms, and the specific effect trade liberalization has on firms' product choice, sales and prices after a quota restriction is removed.

January 2005 saw the complete removal of the final phase of textile and clothing quota restrictions, regulated by the Agreement on Textile and Clothing (ATC), which is the successor to the Multi-Fiber Agreement (MFA). The road to liberalization under the ATC saw the gradual relaxation of quota restrictions on India and other developing countries textile and clothing producers, over the period 1995 – 2005. The phase out period sparked export and production surges throughout Southern Asia, with further increases in sales volumes post 2005. This is well documented at the industry or macroeconomic level; however there is limited insight into the firm level effects of such quota restriction removal- especially for firms in large developing countries.

There has been interesting and significant results indicating the growth and competitive market alignments experienced by Indian manufacturing firms. *(Chaudhary 2011, Tewari 2005 and Chiron 2004).* Research emphasizes growth being endogenous to the firm and not necessarily the policy which has ended and although intuitive and empirically robust, it lacks specific insight into inter and intra firm dynamics. However there is no argument against the clear findings of increased integration being a catalyst for further export growth. Previous studies however, emphasize that factor endowments, market structure and competitive firms were in place in India at the time of policy change in 2005, and that may be a significant contributing factor to the realized growth and success in the textile and apparel economies being documented. *(Chaudhary 2005).* Such analysis has been conducted only at the industry level, and therefore further insight into Indian firm dynamics will aim to provide an interesting contribution to previous aggregate level studies. As well as providing a significant contribution of data analysis and compilation, which has been the primary factor hindering insight into firms product choices and dynamics across sales and prices of goods.

A firm level database, compiled by The Centre for Monitoring the Indian Economy (CMIE), provides a significant degree of firm level detail, and allows for a comprehensive analysis of firm responses (across product choices, pricing and sales) to trade barrier removal. This paper employs basic specifications[2] that aim to decompose the differential effects of sales between previously bound and unbound products after the MFA removal. It confirms the findings of surges in sales after 2005[3] on an aggregate level, and at the same time provides sales volume and price effect changes that are consistent with applied trade theory. Key findings are concentrated around the effects on

[2] Worked off a framework used in Brambilla, Khandelwal and Schott 2007.

[3] Emphasized by authors such as Chiron (2004), Chaudhary (2011), Tewari (2005) and Brambilla, Khandelwal and Schott (2007).

sales and prices of previously bound products under the MFA. Depending on the specification, we find that the sales for firms producing a previously quota bound product, increased by roughly 20% compared to when quotas were still in place. Secondly, and also depending on specifications, we find a decrease in prices of previously bound products by roughly 8% after the quota system was dropped. Key findings are consistent with what trade theory suggests, with decreases in the prices of previously quota bound products, and a surge in sales post quota removal. There is also logical insight into how the quota system sheltered domestic firms of the importing country from global competition, specifically from large developing textile manufacturers such as India.

This paper makes a significant contribution to the compilation and analysis of firm level data accessed from CMIE. It required substantial research into the structure of reporting across firms and products and provides insight into different quota mapping techniques. Although this paper maintains a simple structured approach, the opportunity for future and more detailed studies is large.

Therefore in summary a structured, systematic approach is taken to empirically test two basic hypotheses. Firstly did the removal of the MFA boost sales and exports of previously quota restricted products, compared to un-quota restricted products? Secondly did the removal of the MFA reduce prices of previously quota restricted products relative to the unbound products?

The remainder of the paper will be structured as follows: section two will provide a background to the MFA and ATC, as well as providing a brief literature review. Section three will provide a theoretical overview. Section four provides empirical specifications as well as data compilation methods. Section five provides estimation results and section six concluding remarks.

2.1 Background to the MFA and ATC

The Multifiber Arrangement (MFA) began in 1974 as a result of developed countries seeking a more systematic mechanism to deal with the continued growth of textile and clothing imports from Asian countries. The MFA stemmed off a long series of voluntary export restraints imposed in the early 1950's. *(Khandelwal et al 2007)*

The aim of the Agreement on Textile and Clothing (ATC) was to start the phasing out process of the MFA and start the gradual integration of textile and clothing products into the GATT/WTO rules. The ATC was split into four distinct quota relaxation phases, and within each phase each importing country was required to relax quotas in 'product sets'. The integrating process was subject to two rules; firstly the quotas relaxed in each phase had to be from each of the four major textile groups – yarn, fabrics, made-ups and clothing. And each set of chosen products had to represent a certain proportion of the respective countries 1990 textile and clothing exports *(Khandelwal et al 2007)*. The gradual removal of quotas allowed for the improved access to developed markets for producers such as India. By 2005 East Asian products, excluding China, were fully integrated. China remained restricted to a certain degree due to its exclusion from the WTO prior to 2001 and therefore missed integration opportunities in phase one and two. Chinese exports remained

restricted by the U.S. on certain products, up until 2008, as a result of U.S. domestic producer lobbying. *(Khandelwal et al 2007).*

The U.S Office of Textile and Apparel (OTEXA) monitored trading partners' compliance with the MFA and ATC quotas. OTEXA makes use of U.S. partners expired performance reports. The expired performance reports list quota categories, along with products that fall into these categories – at the HS 10 digit level and the respective quota restriction and the fill rate of the quota category. The database covers 1984 to 2004 and provides sufficient quota restrictiveness information to carry out this study.

The structure of the quota reports consisted of 149 quota categories, each represented by a three digit code. Each 3 digit coded category incorporated further disaggregated categories. The five main categories were cotton and/or manmade fiber, cotton fabrics, wool, man-made fiber, synthetic materials and of silk blends or non-cotton vegetable fibers. Under each of these five categories there are varying amounts of three digit categories. Within each three digit category there are an average of seventeen products reported at the HS 10 level. *(Khandelwal et al 2007).*The basic structure was as follows:

- Five broad textile or clothing categories: cotton and/or manmade fiber, cotton fabrics, wool, man-made fiber, synthetic materials and of silk blends or non-cotton vegetable fibers.
- Under these five categories were 149 categories reported at the three digit level. Each five digit category consists of varying amounts of the 149 three digit categories.
- Within each three digit category there are an average of seventeen products reported at the HS 10 digit level

India was governed by specific quotas under the MFA. Specific quotas were reported by OTEXA as being the most restrictive and were standardized across units of measurement and were all represented in square meter equivalents (SME's). By standardizing the units of measurement authorities essentially standardized the quota restrictions across categories. The restrictions were of a weighted nature and therefore India's' most common exports faced relatively heavier restrictions.
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The OTEXA quota classifications were coupled with U.S Customs and Border Protection reporting's that provided information on the quota fill rate for each three digit classification for 2004. Although OTEXA standardized all units to SME's, The U.S. Customs and Border Protection maintained original unit listings, they also provided the percentage fill rate for particular OTEXA three digit listings, or groupings of the three digit listings.
Therefore the mapping of quota fill rates to products was done only at one point in time - 2004. And therefore did not take into account the 'phasing out' of the MFA, although quotas had been relaxed on various Indian exports, across all major categories prior to 2004, quotas on the categories that contained the highest concentration of Indian trade volumes were intact at the end of 2004. , and thus made it possible to analyze the sales and price decisions made by firms of originally bound and unbound products at the end of the MFA.

2.2 Brief Literature Review and Lessons from China:

This brief literature review aims to provide insight into passed research, conducted primarily at the industry level, in the East Asian textile and clothing economy as well as taking a closer look at research having used similar data sets and specifications to that of this study. It presents key findings from four studies conducted using MFA and quota testing specifications, analysis of the impact of the MFA removal on China as well as studies using CMIE data and multi-product firms.

Substantial research has been carried out to test several hypotheses primarily looking at the effect of the MFA phase out, whether it is at the industry level or global. Background research into the Indian textile industry shows that textiles contribute significantly to India's export earnings, 15% of total exports are attributed to the textile and clothing sector. The U.S and E.U account for roughly two thirds of India's textile exports. With further liberalization the growth in the Indian textile and clothing industry can only be expected to increase. According to *(Chaudhary, 2005)* in the post-quota period, India has become increasingly popular as a sourcing agent for buyers. Chaudhary emphasizes that Indian manufacturers are also working toward enhancing their capacities to fulfill this increased demand. "India's textiles and clothing export registered robust growth of 25% in 2005-06, recording a growth of US$3.5 billion in value terms, thereby reaching a level of US$17.52 billion. The growth continued in 2006-07 as textile and clothing exports were US$19.15 billion, recording an increase of 9.28% over previous the year." *(Chaudhary, 2011*).

Further literature provided by *(Tewari, 2005)* provides insight into how Indian firms restructured their competitive and comparative advantages and integrated themselves into the global market structure. The main findings from *(Tewari, 2005)* show how India's' path to global integration in textiles and apparel differs from the path of its proximate competitors, which has occurred without significant FDI, or entry into regional Free Trade Agreements (such as NAFTA) or deep insertion into dominant global supply chains. *(Tewari, 2005)* emphasizes that India's' growth is attributed to the presence of a tier of highly competitive domestic firms that were able to restructure themselves during the deregulation of the textiles in the mid 1980's. *(Tewani, 2005).*

In light of the positive growth and competition dynamics of Indian firms, empirical work providing evidence on the characteristics of such restructuring, and the within firm dynamics of multi-product firms is minimal. Firm level studies have mainly been undertaken in the U.S and review the substantial gains in aggregate output that arise when trade liberalization takes place, however many of these studies treat firms as single product producers as well as abstracting away from the within firm dynamics, and product mix decisions. *(Goldberg et al 2008).*

The MFA removal has created expectations of increased growth for large developing countries such as India, with predictions of surges in manufacturing growth, export growth and various productivity improvements, as well as market restructuring favoring more productive firms. However the most relevant and most concise studies have been conducted by a select group of researchers. The empirical approach and results of such studies have provided the basic framework for this study.

(Brambilla, Khandelwal and Schott 2007) analyze China's experience under the MFA and ATC restrictions and provide projections of export growth and market restructuring when compared to other major U.S textile and clothing trade partners. The authors firstly emphasize that Chinese textile and clothing exports were more quota restrained than their other trading counterparts, thus resulting in an export surge (post quota removal) that was unmatched by any of the U.S's other textile and clothing trade partners. Chinese exports increased 39% year on year in 2005, of which the sales of products originally quota bound increased 270%. This provides some insight into the potential gains that Indian firms can experience in export growth post 2005.

(Brambilla et al 2007) emphasize Chinese exports being additionally constrained across three dimensions, relative to other textile and clothing exporters under the MFA. And these may be significant contributing factors to the unrivaled growth in sales post quota removal.

i. Chinese quotas were more likely to be binding than those quotas experienced by other countries.
ii. China's quotas grew at a slower rate than those of other countries.
iii. The US had placed greater restrictions on china.

The authors illustrate that the surge in Chinese exports came at the expense U.S domestic production and at that of other U.S trading partners. The authors show that virtually all other trading partners experienced export decline in 2005 and in extreme cases, such as Southern-Africa experiencing complete reversals in textile and clothing export growth, post 2005. Therefore it is plausible that the MFA and ATC had evolved from a policy intended to protect the domestic U.S textile manufacturing sector, into one that provided shelter for smaller textile and clothing producers, from the global competition of large developing economies such as China and India. *(Brambilla et al 2007).*

In addition to additional Chinese restrictions, results also show that India has relatively higher bound products when compared to other global textile and clothing exporters. Taking specific quotas into account, India has an average fill rate of 70% - for the products reported to be quota restricted. Bangladesh, India and China exhibit the largest share of quota fill rates over the period from 1990 to 2004, in each case quota fill rates exceed 60%. Secondly for the period 1990-2004 China experienced 61% of its exports constrained by a specific quota – governing the exact quantities available for export. This is in contrast to the Indian case, where by specific quota's only governed 20% of Indian exports. *(Brambilla et al 2007).*

(Brambilla et al 2007) estimate the differential growth associated with the relaxation of quotas on bound and unbound products. They regress the change in countries export quantities on region-year dummies, interacted with a dummy variable indicating whether Chinese quotas were previously binding. This difference-in-difference method proved valuable for the estimation methods used for this particular study. They use a similar method to estimate changes within countries products, by changing the dependent variable from changes in export quantities to changes in estimated quality of a product. Results show that Indian, Bangladesh and Pakistan export surges were positive and consistent with expectations. However findings were not statistically significant and therefore further analysis incorporating Chinese data was needed for significant results. Emphasizing the impact the Chinese industry has globally.

However findings from *(Brambilla et al 2007)* abstract away from addressing firm level dynamics and do not address the source of export growth as coming from extensive or intensive margins. Thus gives an opportunity look at firms' decisions across the intensive margin.

(Khandelwal, Schott and Wei (2011)) Conduct analysis on Chinas' textile and clothing industry before and after January 2005. They use firm level, Chinese trade data to determine how the distribution of textile and clothing exports changed within and across firms as quotas were removed. They aimed to gauge whether these changes are consistent with an allocation of quotas to the most productive firms prior to their removal. They assess efficiency using a model of "efficient allocation". Although the specific empirics are not aligned to this study, there is still valuable insight gained into the use of firm level data and the within firm dynamics experienced by firms at the end of the MFA.

The results show surges in export growth across Chinese firms at the time of the quota removal. Exports grew and sales quantities surged, while export product prices declined. They show that these responses are primarily due to the extensive margin: emphasizing those new firms entering the textile and clothing market gained market share at the expense of existing, state-owned firms, due to being able to enter at relatively low prices. *(Khandelwal et al 2011)*. These reactions are inconsistent with an ex ante assignment of quotas on the basis of firm productivity." They elaborate on the significant effect a quota licensing institution has on a firm productivity gain following the removal of a quota system. They also report that total factor productivity among textile and clothing firms rose 10.3% because of the removal of the quota.

The firm level diagnostics report that "following liberalization, we observe substantial reallocation away from inefficient incumbent firms, toward efficient entrants, which implies large productivity gains among these textile exporters." *(Khandelwal et al 2011).* Although, reaffirming the productivity gains and increases in exports and sales. This is consistent with findings from *(Tewari 2005)*, emphasizing that the Indian textile and clothing sector has a tier of highly productive and efficient firms that contribute significantly to overall Indian exports.

(Goldberg, Khandelwal, Pavcnik and Topalova (2008)) conduct research into multi-product producing firms in India (assuming the most productive tier of firms are mulit-product producers). The main relevance of their study was the data analysis carried out using the CMIE data. It aims to investigate the margin of adjustment to trade reforms, and the reallocation of output within firms through changes in their product mix. The study is conducted over the entire manufacturing sector and therefore does not provide specific insight into textile manufacturers, however the study is conducted during the MFA and ATC restrictions (1989-2003), and they find that changes in the product mix had an insignificant effect on growth across all manufacturing firms. The authors do not find evidence of product dropping in raw data, and therefore are unable to connect the changes in firms' product mix through product additions to changes in trade policy. *(Goldberg et al 2008).* However their study provided a valuable understanding of the CMIE database and structure of the Indian manufacturing sector.

This provided an opening to investigate how changes in trade reform affect multi-firm product decisions. Specifically the differential changes in sales and prices of products originally quota bound, as well as the opportunity to compare exporting to non-exporting firms.

3. *Quota Theory:*

This section aims to outline basic trade theory[4] that provides a frame work for our empirical estimation. As well as providing clear and testable hypotheses.

The first area this study aims to address in the impact that quotas have on trade volumes, secondly the impact an import quota has on unit value's – or price – and thus the impact a quota places on the quality of goods imported. In order to present the theoretical effects that a binding quota has on trade volumes, price, quality and welfare, the role of market structure need to be addressed.

i. Perfect Competition:

Under perfect competition there is an 'equivalence effect'[5] between tariffs and quotas. Applying a quota that limits the number of units imported will essentially have the same effect as applying a certain level of tariff. Under perfect competition if government of the importing country imposed a quota, this quota will limit the quantity of the specific product being imported, essentially creating a vertical export supply curve. This can be seen in figure (b) in the theory appendix, whereby there is an imperfectly inelastic supply curve denoted by X*. The imposed quota increases prices and leads to an increased supply in the domestic market and a reduced demand, this is shown in figure (a) in the theory appendix (the domestic market). This restriction in the quantity of goods being imported by the domestic agent will result in price increases in the domestic market due to supply constraints.[6]

The equivalence effect can be seen by there being an equivalent effect on price, consumption and production if government of the domestic country had initially imposed a tariff equal to the change in price the quota causes. The resulting welfare effect in such a case would be the net effect of consumer surplus loss, plus producer surplus gain. This is an advantage for the domestic country importing the goods, as it stands to collect the quota rents. Rents are equal to the price difference between domestic (higher) prices and the world price, multiplied by the amount of goods imported. In summary, when a trade policy instrument causes a fixed import level in perfect competition, then there is an equivalence effect on prices and quantity.

ii. Imperfect Competition:

The equivalence result does not hold for imperfect competition. By analyzing a monopolistic and a duopolistic market structure, a quota and tariff that have comparable effects on the level of imports will have differing effects on the import price, quality and therefore the welfare of the home country.

In imperfect competition a quota causes a sheltered market within the domestic market and the equivalence effect is broken down. The quota shelters domestic firms from outside competition and thus leads to higher prices and lower sales than what it would be under a tariff with the same level of imports. *(Feenstra 2004: 8-9).*

[4] All theory is cited from Feenstra : Advanced International Trade (2002).
[5] Result from Bhadwati (1965) cited in Feenstra *Advanced International Trade (2002) Chapter 8 : 1.*
[6] See theory appendix.

Under imperfect competition when a tariff is applied to a domestic monopoly, the monopoly is able to charge as much as the world price plus the tariff amount (P* + t), but no more. This is illustrated in figure (c) in the theory appendix. At this point its marginal revenue curve is horizontal at the price of (P* + t), and thus the profit maximizing quantity is where price equals marginal cost. Therefore imports result in the difference between consumption and production, at the profit maximizing price. However when a quota is imposed, any price above the world price plus the tariff amount (p*+ t) will result in the same quantity being imported. Thus the monopolist has the ability to influence the domestic price through the changes is demand. The quota enables the monopolist to exercise market power and thus there is a higher welfare cost, and the equivalence effect no longer holds. [7]

Although the monopoly case provides insight into the imperfect competition case, there are more applicable results when analyzing a domestic and foreign firm engaged in Cournot or Bertrand competition. Under Cournot –Nash equilibrium, restricting the foreign firm to sell less than the free trade equivalent will shift sales toward the domestic firm. The Bertrand competition case is the most applicable to this study as it takes into account pricing and quantity decisions that competitive firms are faced with when under competition. Under Bertrand competition the foreign firm (exporter) is limited to selling less than or equal to the quota quantity, and therefore it is unreasonable to suppose firms engage in competition regarding the prices of the other firm as fixed. The domestic firm has the opportunity to increase prices and shift sales toward the exporter firm; however the export firm is unable to exceed the quota amount and thus has to also increase its prices. In such cases this is also proxied as quality increases as restricted exporting firms increase the quality of goods in an attempt to boost revenue. Thus under Bertrand competition, the domestic firm is able to take advantage of the quota constraint, increase prices and know that the foreign firm will have to do the same. Thus, essentially resulting in a 'first mover advantage' for the domestic firm. *(Feenstra 2004: 8 – 12).*

Therefore trade theory suggests the optimal action of the domestic firm would be to increase prices in an attempt to boost revenue that is constrained by the quota restricting the quantity of goods being exported. Thus when the Indian textile and clothing industry is faced with quota restrictions one firstly see's the quantity of sales (exported) decreasing, along with the increase in prices of goods (unit values). In such cases this can be proxied as a quality upgrading. Therefore at the most basic level, we expect a surge in the quantity of sales leaving Indian shores to increase post MFA removal. And we expect there to be a decrease in the prices of goods sold, and therefore possibly cheaper quality goods sold.

In this study, the focus will be on firm's quantity and price decisions that result from quota removal and the following main hypotheses will be tested.

i. The removal of the MFA should increase the quantity of exports of previously quota restricted products relative to unbound products.
ii. The removal of the MFA should reduce price of previously quota restricted products relative to unbound products.

[7] See theory appendix.

The compilation of a product by firm dataset, with a mapping to quota fill rates is key to analyzing the firm product decisions across prices and sales. Quantity responses to the removal of the quota are fairly simple and intuitive and the surges in quantity of sales, or exports have two possible sources. The first being a net growth in the sales of firms existing products (across their intensive margin) and secondly net growth in sales due to adding additional products to their product mix that were not previously produced – (across their extensive margin).

This study aims to specifically look at the intensive margin and analyze the effect on sales of previously bound products compared to unbound products after the MFA removal, as well as looking at the price effects under the same specifications. The empirical specifications of such tests will be discussed below.

4.1 Empirical Specification:

A difference- in-difference strategy is employed to examine the impact that the quota removal has on firm decisions in 2005. The focus is on the effects on firm sales and prices of products being produced by Indian textile and clothing firms. The difference –in – difference specification looks at the differential effects in sales and prices of quota restricted products, compared to unrestricted products before and after the quota was lifted in 2005.

The basic models make use of a log-level functional form, where by:

- i = product, j= firm t = time
- $Bound_i$ = dummy that equals 1 if the quota fill rate for product i is greater than 90%, zero otherwise.

There is an additional bound dummy variable that accounts for garments and cotton fabrics whereby if these product categories are = 1 it shows the product is quota bound and all other categories = 0 showing those product listings are unbound. The overall specifications are the same despite the different dummy variable specifications.

- $Post_t$ = dummy that = 1 if year is 2005 or later, zero otherwise. The use of time dummy variables enables us to abstract away from deflation of firm factor of production input prices over the duration of the study.
- Exporter = 1 if firm had recorded exports for a minimum period of 2004-2006, otherwise = 0. This ensures that export data is reliable and avoids analyzing firms that don't have consistent export figures relevant to the time of this study.

Firstly, the basic difference- in-difference specification:

$$LogSales_{ijt} = \alpha_1 + \lambda_i + \lambda_t + \beta_3 Boundi * Post_t + u_{1,ijt} \qquad (1)^8$$

[8] As per the specification framework of Brambilla, Khandelwal and Schott (2007) equation 2.

Where λ_i and λ_t are product and year fixed effects. Fixed effects estimators capture time - invariant product - specific and year - specific shocks in firm sales that may be correlated with the removal of the quota. This is the baseline model to analyze the effect of the quota removal. The coefficient β_3 captures the differential sales in quota restricted products after the quota was removed i.e.: it is the difference-in-difference estimate of the effect on the quota sales.
Next, we refine our specification by controlling for unobserved firm specific shocks in sales. For instance, one concern is that particular firm types select into production of quota restricted products and that these factors determining such selection are unobserved. This would then lead to inconsistent estimates of the effect of trade liberalization on sales figures. Since we have firm level data, we can control for such factors as long as they are time-invariant, and we can do this by using firm fixed effects. We hence estimate:

$$LogSales_{ijt} = \alpha_2 + \delta_1 ij + \delta_2 jt + \delta_3 Boundi * Post_t + u_{2,ijt} \qquad (2)$$

The difference-indifference coefficient δ_3 once again captures the effect of the quota removal. This specification now includes a firm by product fixed effect. This includes a firm specific effect and product fixed effect. Thus, we use the variation within each firm over time and contrast firms producing bound products with firms producing unbound products.
This specification has firm by time fixed effects. This is our most unrestricted specification, where we only exploit within-firm, cross product variation between products that are quota bound and unbound, with the aim to identify the effect the MFA removal has on such variables.

The specification once again makes use of a difference-in-difference coefficient, that now incorporates a variable indicating whether a firm is an exporter or not. This exporter dummy is constructed on the basis of whether a firm has export figures before and after the quota removal in 2005. And thus hopes to capture the effect on sales including whether a firm is an exporter or not. The MFA effected exports and thus a differential effect between exporters and non-exporters is expected, however there are limitations to this specification. Quantity of exported sales or value of exports cannot be analyzed due to CMIE only providing export data at firm level and not at product level, thus the data is only useful at distinguishing exporting firms from non-exporting firms.

$$LogSales_{ijt} = \alpha_3 + \gamma_1 ij + \gamma_2 jt + \gamma_3 it + \gamma_4 Boundi * Post_t * Exporter_{jt} + u_{3,ijt} \qquad (3)$$

In this model there is an additional 'product-by-year' fixed effect since we are interested in the differential effects on product level sales after quota removal on exporting and non-exporting firms. Thus the main coefficient of interest is γ_4 capturing the effect between exporter and non-exporter firms.

However results pertaining to specification two and three are limited due to available computing power and the limit of this study. Therefore the objective of providing the specification outlines is to illustrate the structured approach carried out to analyzing the firm dynamics as well as providing specifications that were thought through in a systematic manner and may be a useful reference for future studies.

4.2 Data Analysis and Descriptive Statistics

We use a firm level, panel data set for the period from 2002 – 2008, sourced from the Prowess database and compiled by the Centre for Monitoring the Indian Economy (CMIE). What is imperative to this study is the availability of specific firm and product level data that provides the opportunity to explore the 'inter' and 'intra' firm dynamics. Thus a primary contribution of this study is the compilation of such detailed data that is then later mapped to data on MFA quotas from the U.S Customs and Border Protection.

The Prowess database provides specific firm level data captured from annual income statements and balance sheets of about 9500 publicly listed companies, of which roughly 5000 are in the manufacturing sector. The companies in the database together comprise 60 to 70 percent of the economic activity in the organized industrial sector, and account for 75 percent of corporate taxes and 95 percent of excise duty collected by CMIE. The Prowess database is the primary Indian database that allows for detailed, annual information on firms' product mix and variables such as sales, production and capacity. Firms are required by the 1956 companies act to disclose such information in their annual reports. For each product manufactured by a firm, the dataset provides the values of sales, quantity and units allowing for a time series construction of unit values at the firm – product level. The Prowess database is therefore very well suited for the understanding of how firms adjust their product mix over time in response to policy shocks, as well as effects on sales and price figures in response to trade liberalization. Export data is available through the Prowess database; however CMIE does not compile export data at the product level, and thus exports were only reported as an aggregate for each firm per year.

Table 1: Insight into specific CMIE dataset used in this study

Year :	2002	2003	2004	2005	2006	2007	2008	Total
Number of Observations :	2559	2559	2559	2559	2559	2559	2559	17913
Number of Firms :	802	800	742	757	791	752	735	1012
Number of Firms Reporting Positive Sales :	758	743	680	682	709	672	669	922
Number of Exporters (pre & post 2005) :	n/a	n/a	163	165	166	162	164	2800
Number of Multi product Producers (>3 products) :	281	272	243	274	256	223	260	856

Notes: This table is derived from our balanced panel, firm level data set. Compiled from CMIE data spanning 2002 – 2008.

The objective of this data construction was to link quota fill rates to product information. With the end goal being to have a dataset that listed all firms in the Indian textile and clothing sector, what products they produced and what the quota fill rate was on each specific product. This is what is referred to as a one – to – one mapping between firm, product and quota. The mapping was done in the following broad stages.

- The first step was to clean the complex structure of the CMIE product classifications and to gain further understanding into the structure of how products are recorded in the database.
- The second step was to link the CMIE products to respective quota categories that are reported by OTEXA.

- The final part for data construction involved mapping the specific quota fill rate[9], to each OTEXA quota category and thus each CMIE product had a one to one mapping to a quota fill rate.

Firstly, analysis of the CMIE product classification was done. As reported by (*Khandelwal et al (2003))* CMIE uses an internally based product classification that does not directly link to the Harmonized System (HS); however there is a connection made to the National Industry Code schedules (NIC) and therefore the ISIC 3, ISIC 3.1 and ISIC 4.0 schedules. Various inconsistencies in product names and product coding's' were found in the CMIE data. Inconsistencies were too extensive to allow dropping of observations and thus had to be reviewed and mended manually. Example of such problems arose in product naming's' such as "Cotton Fabric" and "Cotton Fabrics" – obviously the same product, however reported under different product codes.

Table 2: The CMIE product coding system:

NIC :			Description
17			**Manufacture of Textiles**
17011	**Product Codes (CMIE)**		**Manufacture of Cotton Yarn**
		60307000000	Sale of Fabric
		60303010000	Cotton Yarn
		60307100100	Cotton Fabric
		60303000000	Yarn
		60307000000	Cloth
		60307000000	Cotton Handloom Cloth
Within NIC 17011 there are 2784 observations (25%) and 62 unique product codes/name listings			
18			**Manufacture of Wearing Apparel**
18111	**Product Codes (CMIE)**		**Manufacture of Apparel - except fur**
		60700000000	Garments
		60701050000	Cotton T-shirts
		60701150000	Hand Gloves
		60703000000	Jackets
		60701160000	Cotton Socks
Within NIC 18111 there are 298 observations (2.9%) and 20 unique product code/name listings			

Notes: Table is adapted from Goldberg,Khandelwal,Pavcnik and Topalova (2008) Data Appendix - Table A1. However this is specifically for textile firms.

By understanding the CMIE product classifications and the complexities behind it, it resulted in the need for a more transparent and consistent product classification. The primary aim for this study was to attain a one to one mapping, from the company, to product, to quota fill rate. Due to data complexities (mainly inconsistencies in product naming's' and coding's' from different reporting parties) this was not simple and thus further variables were adjusted or created to further

[9] Reported by the Textiles Report, compiled by the U.S Customs and Border Protection: for 2004. Available: http://www.cbp.gov/linkhandler/cgov/trade/trade_programs/textiles_and_quotas/textile_status_report/archived/2004_year_rpt/intxtrpt.ctt/INTXTRPT.HTM [Online].

disaggregate product specification and attempt to form a one – to - one mapping. The one - to – one mapping was only achievable if it were possible to link the CMIE product listings to the OTEXA product listings and therefore have the quota fill rate for the specific product. However there was differing amounts of disaggregation across product listings, between the CMIE product listings and OTEXA. The CMIE data was very aggregated compared to the OTEXA product data and therefore made it impossible to make a rational link by only looking at the product names or coding's'. In addition a major contributing factor to the complexities in the data was that a lot of the aggregation across the CMIE data was within product categories that comprised of significant amounts of Indian exports (such as cotton yarn and garments) and this forced the need to create some kind of disaggregation on the CMIE data and this was done through creating further descriptive product variables.

4.3 Variable Construction:

i. *Product Codes:*

From the original CMIE data, there were 282 product reporting's' for the panel data set. However of these 282 products, CMIE had significant concentrations of products that were only listed under a two digit NIC code. Therefore only 12 product codes were listed by CMIE under these NIC's. Most of the observations in the garments category fell under one product code (60700000000) which is the product code for garments.
Therefore due to there being a major concentration of our observations falling into categories similar to that of garments, further standardization and disaggregation was manually done to split up such sections, providing further unique codes to the relevant sub sections within apparel.

The standardization of products and the revealing of a one-to-one mapping for each product-code combination were done by uniquely coding each product within our dataset. This resulted in splitting up the concentrated groupings of products listed under the CMIE data scheme, and thus made it easier to map our products to a quota fill rate.

Table 3: Encoding Process:

CMIE Product Code	*CMIE Product Name*	*Encoded Variable*	*Unique Product ID*
60700000000	Readymade Garments	750	60700000000750
60501020201	Polyester Processed Yarn	654	60501020201654
60303000000	Yarn	1012	603030000001012

Note: Each CMIE product description has a unique product ID.

Therefore by assigning each product with a unique identification system the data set had 1297 product listings in total, a significant increase in products from the original CMIE data.

Table 4: Product Breakdown:

Variable	2002	2003	2004	2005	2006	2007	2008	Total Number in Dataset
Number of CMIE Products (11 digit)	100	98	86	90	92	87	100	208
Number of Uniquely Coded Products	287	236	203	241	234	215	282	1297

i. Quota Fill Rates:

Quota fill rates were accessed through OTEXA and manually mapped to each 282 unique CMIE product groupings. OTEXA's reporting of specific quota fill rates, for textile and clothing imports, show 149, 3 digit quota categories. Within each 3 digit quota category, there are products listed at the HS 10 digit level; on average each 3 digit category has 17 HS 10 digit products, resulting in 2533 product listings under OTEXA.

Specific quota fill rates were available for the three digit quota categories. Although there was significant effort made to address the differing product reporting's made by CMIE and OTEXA. There proved to be significant measurement error when allocating quota fill rates from the OTEXA specification to the CMIE data due to the varying degree of disaggregation across products. As seen in table below, OTEXA has vast disaggregation and a concentration of quota fill rates for series of cotton fabrics as well as man-made fiber and apparel. These two categories account for 58% of OTEXA product classification. However the same level of disaggregation in the same product categories cannot be seen on the CMIE data.

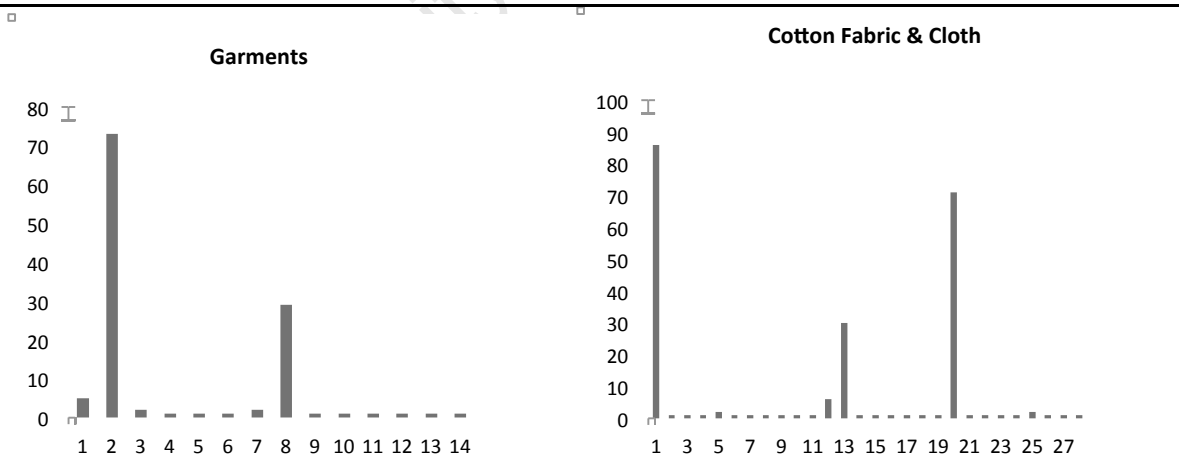
Quota fill information was gathered from the textile status report compiled by the U.S Customs and Border Protection, which reports the various quota fill rates applying to each OTEXA quota category for 2004. This resulted in an adequate mix of bound and unbound products, specifically 23% of the products were bound (>90% fill) where as 25% were between the 70% and 25% fill rate and the remainder had 0 fill rate due to not being quota restrained. Starting from the CMIE data and our unique product listings, an attempt to make a direct link from the product to the quota category was made. In many cases this was successful as the CMIE product name was disaggregated enough to allow for a direct comparison to the OTEXA classification, and thus the quota category was allocated to that specific product or product grouping. In cases where there were numerous quota categories relevant to a single CMIE product, the simple average (of the specific quota fill rate) across those respective categories was mapped to the single unique CMIE product.

Table 5: Quota fill rate mapping to CMIE product codes:

Product Name	*CMIE_Code*	*Unique Code*	*Quota Categories*	*Average Quota fill rate across Quota Categories*
Banians	*60701000000*	*6.0701E+12*	*332 (Cotton)* *632 (Man-Made)* *832 (Silk)*	*66.70%*
Polyester texturized Yarn	*60501030101*	*6.0501E+13*	*606 (Man-Made)*	*0.00%*

Two approaches were followed in mapping quota fill rates to products.
Method one aimed to provide a one-to-one mapping as set out previously. However this was not fully successful as the varying disaggregation reported by CMIE and OTEXA was too large and thus forced the simple average quota fill rate to be taken where a one to one mapping was not attainable. Although this still provided absolute quota fill rate figures and data it was not entirely accurate and therefore taking the weighted average may have been a better estimation of quota fill rates. Specific problems were apparent in the apparel section where products reported by CMIE do not allow for distinguishing distinct product classifications – whether through naming or through codes. This is a serious problem, as the quota fill rates reported by OTEXA have a mixture of quota fill rates of 100% on apparel products and 0% fill rates, with no way to distinguish which products in the CMIE data were 100% or 0% the simple average was taken over the whole section (resulting in an average quota fill rate of 38%) and thus introduced significant measurement error in the mapping.

Figure 1: Histogram showing concentration of products under same name, and average fill rate:



Notes: Histogram showing the frequency of products reported by CMIE to have the same name. In garments there were 14 products reported as 'garments' and in one case 73 observations were found under a single classification. In the original quota mapping method, these sections would have all been identified to have a simple quota average fill rate of 37.8%(taken across the entire garments section) due to there being no way to further identify products. Hence resulting in measurement error.

Secondly the apparel and cotton fabric sectors account for a significant proportion of Indian trade, and thus a huge proportion of our observations were found to be in these categories.

Thus, due to most of Indian textile and clothing firms being found to produce 'garments' , 'cotton fabric' or 'yarn' (as reported by CMIE), there proved to be substantial measurement error in how products are assigned quota fill rates. Therefore a more aggregated approach to assigning products quota fill rates is adopted in method two.

Method 2:

The second method of assigning quota fill rates to products is derived from (Brambilla, Khandelwal and Schott (2007; table 8)) where by the authors identify a standardized quota rate for specific sectors. The approach classifies entire textile categories (such as cotton fabrics) as either bound or unbound and thus does not attempt to assign specific products a one – to – one quota fill rate mapping. The Indian categories that are listed correspond to cotton fabric, yarn and garments and show fill rates in excess of 90% for garments and in excess of 70% for cotton fabrics.
Therefore method two constructs a dummy variable that identifies cotton fabrics and garments as bound. These products are thus classified as bound in the CMIE data and all other products as unbound. This resulted in 20% of the observations in the CMIE data being under a binding quota restriction in 2004, and the remaining 80% being unrestricted.

This contrasts to the previous method whereby there was 43% of our observations between 70% and 25% quota filled, and this was largely due to the simple average being taken across those concentrated product sections. In addition 20% was below 25% quota constrained and the remaining 37% quota bound (>70%). This illustrates the noise in data, and method two aims give a more consistent approach to classifying whether a product is bound or unbound.

However method two also has a fundamental flaw. Although the results obtained through method two are an improvement from method one there is also a degree of measurement error. Method two assigns all the garment and cotton fabric sections as bound. And thus does not take into account the products within garments that are not bound. Thus wool and silk garments that had no quota restriction in 2004 are therefore assigned a 100% fill rate in this study. Although these specific garment products contribute a minimal amount to overall observations there is still a degree of inaccuracy.

5. Estimation Results:

5.1 Results for Method 1:

Results Table 1.1:

	Difference - in - difference		Diff – in – Diff Product & Year Effects		Fixed Effects (product by firm)	
Lnsales	**Coef.**	**P>t**	**Coef.**	**P>t**	**Coef.**	**P>t**
Post_MFA	0.2220584***	0.00	0.0509146	0.59	0.1916514***	0.00
Bound	0.509891***	0.00	0.5401704	0.22	(Omitted)	-
Diff-in-Diff	-0.0599054	0.61	-0.0914135	-0.99	-0.0300324	0.57
_cons	4.427101***	0.00	0.6189998	0.721	4.707949***	0.00

Note: Significance Levels for ALL tables: * 10% significance, ** 5% significance, *** 1% significance.

Method one produced significant measurement error and for that reason the illustrated results in table one are not consistent with expectations. Despite this, the first column showing specification of equation one (the difference in difference approach) shows positive and statistically significant increases in sales after MFA removal (22.20%) compared to pre 2005, and an increase in sales of 50.898% of originally bound products compared to non-bound products. However the key coefficient is the basic difference in difference that shows a negative effect on sales from the removal of the quota system of a previously bound product after 2005. This is an inconsistent and counter intuitive finding.

The second column shows the difference-in-difference specification as in equation one, however includes year and product effects in order to control for time effects. Once again estimation provides a statistically insignificant and unintuitive result. However it does show increases in sales values after 2005 compared to before as well as reporting surges in sales of previously bound products compared to unbound products.

Column three and the last specification of the fixed effects (product by firm), sucks out the time invariant variable of the bound rate – showing that the bound variable was time dependent, in doing so it analyzes just the post MFA removal increase in sales of 19.165% compared to before removal.

The difference-in-difference coefficient analyzing the effect on sales of a bound product compared to an unbound, post 2005 compared to pre 2005 shows a statistically insignificant result as well as counter intuitive. The fixed effects specification is superior despite the result, as we know that by eliminating the time dependent 'bound' dummy the effect on sales following the quota removal can be analyzed without unobserved and time dependent factors influencing it. Thus there is a cleaner, more consistent and time invariant estimate.

Results Table 1.2: Unit value effects from Quota Removal

	Diff – in – Diff Product & Year Effects		Fixed Effects (product by firm)	
Lnuv	**Coef.**	**P>t**	**Coef.**	**P>t**
Post_MFA	0.1180067***	0.00	0.1115019***	0.00
Bound	1.061522	0.36	0.000	-
Diff - in - Diff	-0.0600181	0.17	-0.0524936**	0.07
_cons	-2.603189***	0.00	-2.376349***	0.00

The second table analyzes the differential effect on prices between previously bound products compared to previously unbound products after the MFA removal.

The first column is a difference – in – difference specification as per equation one. By firstly controlling for time invariant, product specific and year specific shocks to the unit values of products. Estimation results show a statistically significant increase of 11.800% in prices after the MFA removal, however estimation results fail to show any significant price decreases for previously bound products. As well as not providing a statistically significant result for decreases in prices of previously bound products after MFA removal (the difference in difference estimator) although the relationship is consistent with expectations.

The second column shows the fixed effects estimator as per equation two. By eliminating the time invariant bound dummy, and accounting for unobserved time variant factors, the fixed effects model does produce a more statistically significant estimate showing a price differential between previously quota bound products and unbound products. The estimate shows a 5.250% decrease in price of a previously quota bound product after the MFA quota system has ended. And thus this is consistent with expectations.

Results Table 1.3: robustness check – only analyzing multi-product producing firms.

	Difference - in - difference		Diff – in – Diff Product & Year Effects		Fixed Effects (product by firm)	
Lnsales	**Coef.**	**P>t**	**Coef.**	**P>t**	**Coef.**	**P>t**
Post_MFA	0.0914575	0.46	0.1590914	1.56	0.1590914***	0.00
Bound$_i$	0.3813796**	0.03	6.634053	6.38	(Omitted)	-
Diff - in - Diff	0.0000991	1.00	0.0000991***	0.00	0.0000991	0.99
_cons	5.078318***	0.00	1.043749	0.15	5.215344***	0.00

Results for the robustness check illustrate a similar picture to that of the first specification results. As a result of the measurement error in the quota fill dummy, these specifications fail to give any

worthwhile results on the variable of interest. Although the diff-in-diff estimate is un-useful there are still statistically significant estimates showing the increase in sales following the end of the MFA.

5.2 Results for Method 2:

Results Table 2.1: The effect of the quota removal on sales

	Basic Diff-in-Diff		Diff – in – Diff Product & Year Effects		Fixed Effects (product by firm)	
lnSales	**Coeff**	**P>t**	**Coeff**	**P>t**	**Coeff**	**P>t**
Post_MFA	0.1992505***	0.00	0.2577339***	0.00	0.1175324***	0.00
Bound$_i$	-0.2881055***	0.00	-7.607156***	0.00	(Omitted)	-
Diff - in – Diff	0.0641786	0.61	0.2830482***	0.00	0.2055733***	0.00
_cons	4.413065***	0.00	7.384012***	0.00	4.446544***	0.00

The first column illustrates results for the basic diff-in-diff as per equation two: the basic difference in difference provides an intuitive and statistically significant result of increased sales post MFA, an estimation of 19.925%, compared to before 2005. However the garments and cotton fabric bound products showed a decrease in sales of 28.81% compared to the unbound products. Although statistically significant these dummy variables do not provide worthwhile information for this specification.

The difference in difference estimator, shows the positive impact on sales of 6.417% post 2005 of originally bound products, compared to unbound products before 2005.

However this is statistically insignificant, and thus there is a need to control for product specific and year specific shocks in firm sales that may be correlated with the removal of the quota.

This is shown in column two, and relates to equation two of our specification. Once again it shows significant results for variables in isolation, it confirms surges in sales of 25.773% post MFA removal compared to during MFA, as well as showing statistically significant differential increase in sales of 28.304% post 2005.

The fixed effects estimation is found in column three. This aims to further eliminate unobserved time variant factors that influence sales. Significance is achieved by sucking out the time invariant variable of the dummy on garments and cotton fabrics. Thus the fixed effects estimator confirms a statistically significant increase in sales after 2005 of 11.753% compared to before, while the difference in difference effects confirm a statistically significant increase of 20.557% in sales, of previously bound cotton fabric and garment products compared to other T&C products after the MFA removal compared to before.

Table 2.1 essentially presents the stark difference between our method one (table 1.1) and method two. By accounting for the measurement error from quota allocation the estimation results differ. The difference – in – difference estimator when accounting for year and product effects shows

statistically significant results as well as the fixed effects estimation. These two specifications under 'method 2' provide the central findings of this paper

Table 2.2: The effect of the quota removal on unit values (prices):

	Diff – in – Diff Product & Year Effects		Fixed Effects (product by firm)	
lnUnit_Value	**Coef.**	**P>t**	**Coef.**	**P>t**
Post_MFA	0.1137488***	0.00	0.0868141***	0.00
Bound$_i$	-1.12941	0.21	0	-
Diff - in - Diff	-0.0888773**	0.07	-0.0503222	0.131
_cons	-0.9549124**	0.04	-2.400952***	0.00

The second specification analyzes the differential effect on prices between previously bound products compared to previously unbound products after the MFA removal. By once again controlling for time invariant, product specific and year specific shocks to the unit values of products. The difference-in-difference estimate confirms the desired relationship of a decrease in price of previously bound products compared to unbound products after MFA quota removal.
The first column indicates an estimated decrease of 8.887%.
The second column shows the fixed effects specification does not reveal statistically significant results. However this is a preferred or superior specification as it controls for unobserved effects on prices.

Table 3: Robustness check for multi-product firms.

	Basic Diff-in-Diff		Diff – in – Diff Product & Year Effects		Fixed Effects (product by firm)	
Lnsales	**Coef.**	**P>t**	**Coef.**	**P>t**	**Coef.**	**P>t**
Post_MFA	0.0570764	0.51	0.0691526	0.35	0.0691526*	0.06
Bound$_i$	-0.307016**	0.02	-3.89441***	0.00	(Omitted)	-
Diff - in – Diff	0.195094	0.32	0.1950974	0.12	0.1950974***	0.00
_cons	5.037856***	0.00	7.654272***	0.00	4.99799***	0.00

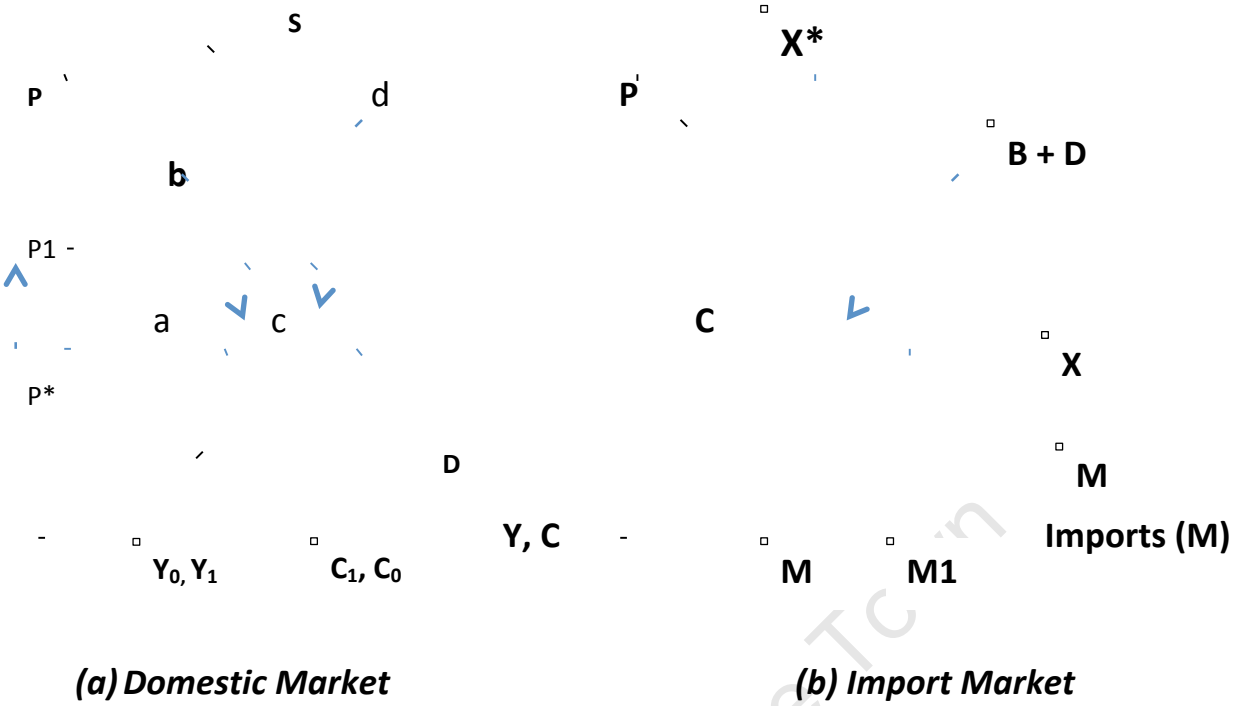
Table three reports a robustness check for multi-product firms and the impact the quota removal had on sales.
It depicts very similar relationships to the specifications previously run on all firms.
The first column - The difference-in-difference estimator only provides a significant result under year fixed effects when sucking out the time invariant variable of bound products and unbound. The results for this particular specification illustrates that after MFA quota removal, sales of previously bound products (garments and cotton fabrics) increased by 19.509% when compared to when the quota system was in place. This is consistent to our previous estimation of an increase in sales of 20.557%.
The third column showing the fixed effects estimation as per equation two shows a superior and statistically significant result when controlling for unobserved time variant effects. The final fixed effects regression for multi-product firms emphasizes that there is a positive impact on sales after the MFA quota removal. This estimate of 19.50% is the most valid estimation result as it controls for the most unobserved variation and thus we can confidently conclude that sales of previously bound products after the MFA removal have increased by 19.50%.

6. Conclusion

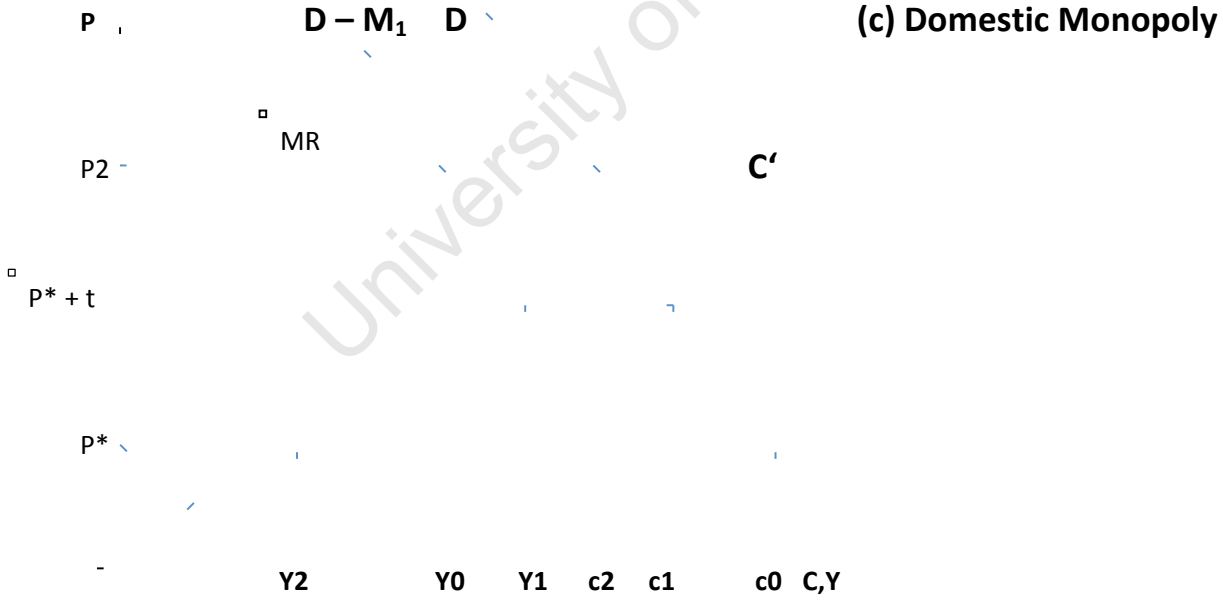
A structured approach was taken to analyze the effect that trade barrier removal has on Indian firms. A simple but effective empirical estimation is employed that aims to investigate the effect the removal of the MFA quota system had on Indian firms' intensive margin. Specific empirics were based on a basic difference- in – difference estimation method, as well as a fixed effects model. These simple specifications firstly estimated the differential effects of firm sales after 2005 compared to before as well as between bound and unbound products. It also estimated the differential effects on prices using the same specifications. As well as running robustness checks for multi – product firms. Results proved to be robust with the superior fixed effects estimations producing estimates of an increase of 19.5% in sales of previously bound products after 2005 compared to unbound products. And an estimate of a decrease in the price of previously bound goods of 5% after 2005.

In addition this paper makes a significant contribution to the analysis and compilation of firm level data, sourced from the Centre for Monitoring the Indian Economy (CMIE), and will be of valuable reference for future studies.

7. *Theory Appendix*



(a) Domestic Market ***(b) Import Market***



(c) Domestic Monopoly

Figures (a) and (b): The Equivalence Effect:

Equivalence of quotas and tariffs under perfect competition.

Export quota of X* imposed in the importing market, causing a vertical supply curve in the Import Market. With a constraint on the amount of goods available for import, essentially demand outstrips supply and there is a rise in prices of goods in the domestic market. This is shown by an increased price of P1 in the domestic market. Supply of Y1 and reduced demand to C1. There would be an equivalent effect on demand, supply and price if government had imposed a tariff equal to the price distorting effect of t = P1 – P*.

(Feenstra, (Chapter 8 : 4)).

Figure (c) : The Domestic Monopoly – Imperfect Competition.

With a fixed world prices of P*, the demand curve faced by the monopolist is essentially horizontal, and the profit maximizing quantity is YO (where MR = MC).

This is the same quantity that a competitive firm or industry would produce if it had the same MC as the monopolist. So therefore free trade in a small country eliminates the market power of the monopolist i.e. it eliminates its ability to restrict supply and raise price. And therefore this is an initial source of gains from trade.

If a tariff of t is applied to imports the domestic monopolist can charge as much as P* + t but no more, so its demand curve is now horizontal at that price. So therefore its MR curve is also horizontal at that price of P* + t, So profit maximizing quantity is at Y1. Consumption is at C1 and imports equal : M1 = C1 – Y1.

However if a quota is applied, for any price above P* the fixed amount of M1 can be imported. And therefore the demand curve facing the monopolist is the initial demand curve D less the amount M1. (D – M1)

So therefore unlike the tariff scenario the monopolist retains the ability to influence the domestic price, it can choose the optimal price and quantity along D – M1.

(Feenstra, (Chapter 8 : 9)).

Based on the theoretical discussion we would expect the following to happen within the Indian textile firms with regards to product choice, sales and prices.

- From the theoretical discussion above, we would expect an increase in sales following the removal of the MFA as well as a decrease in the prices of the goods sold. In certain cases this can imply lower quality (cheaper) goods being sold.
- Secondly with quota restrictions falling away there will be an increase in sales of Indian products. Also applying to exports from India. Indian firms are able to undercut U.S firms through cheaper factors of production and thus consumers in the U.S show a greater demand for Indian textiles and clothing and thus a surge in sales results.

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