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Assessing Export Competitiveness at Commodity Level: Indian Textile Industry as a Case Study

Tarun Arora

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ASSESSING EXPORT COMPETITIVENESS AT COMMODITY LEVEL: INDIAN TEXTILE INDUSTRY AS A CASE STUDY

Tarun Arora[1]

Abstract

This paper assesses the export competitiveness of top fifteen textile products exported by India to top six textile export destinations (separately for each export destination) at 6 digit level of HS classification using both price and income export elasticities. The export elasticities are estimated using dynamic panel data approach for each country separately. Estimates of commodity specific elasticities are used to forecast the exports of commodities exported to respective export destinations. The resulting estimates are useful to designing destination specific export promotion policies for India.

Keywords: Trade Elasticities. Competitiveness. Forecasting

JEL Classification: F1. F14. F17

1. Introduction

Considered as the mainstay of many newly industrialized nations, textile industry deserves much academic and policy attention. It is all the more so in the Indian context as it is the second largest economic activity and also provider of employment in India, after agriculture and allied activities. Over time, textile policy scenario made remarkable transitions, i.e. from protectionist regime to one propagating free market ideas. Till 1995, the Multi Fiber Agreement on textiles and clothing (MFA) served as a memorandum guiding textile and clothing trade. The MFA excluded textiles from the GATT principles by enabling the countries to impose bilateral quota restrictions on imports of textiles and clothing (Hashim, 2005). Such controlled policy was based on the argument of protecting the traditional handloom industry from external competition.

However, exponents of liberalization criticized such protective policies on the ground that it led to the reduction in the textile industry's exposure the world market, both as a buyer of cheap and quality inputs, and as a seller of yarn, cloth and apparel (Roy, 1998). With ATC (Agreement on Textiles and Clothing) coming to fore in 1995, the textile industry embarked on a liberalized regime where all the laws acting as barriers to trade were repealed, and competition became the order of the day. The textile sector in present context needs to be competitive not only in terms of exports but also has to fortify itself so that imports from the rest of the world do not impinge on the domestic producers' share in their home market. Thus, the industry has to become export and import competitive.

The importance of trade elasticities in designing trade related policies cannot be played down. Besides being useful in studying international linkages and trade policies, these elasticities are becoming increasingly important because of their role in the development of the policies to deal with the country's

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[1] PhD Scholar in Economics, Centre for Economic Studies and Policy, Institute for Social and Economic Change, Bangalore - 560072, Karnataka, India. E-mail: tarun@isec.ac.in

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existing debt crisis (Marquez & McNeilly, 1988).The best example of the role played by the trade elasticities in translating economic analysis into policy recommendation is the classic Marshall-Lerner condition which states that, for depreciation of the domestic currency to reduce the external deficit, the sum of export and import price elasticities (in absolute terms) must be greater than one (Hooper, Johnson and Marquez 2000).

Trade elasticities are also critical as far as the study of competitiveness of commodities (of any sector) is concerned. As this paper focuses on textile industry, it is pertinent to evaluate how competitive the products of the Indian textile industry are in the world market. The most effective way to evaluate the same is by estimating the trade elasticities. Trade elasticities are of two kinds: price demand and income demand trade elasticities. Price trade elasticity is nothing but the ratio of the percentage change in the quantity exported or imported of a commodity given a percentage change in the price of that commodity. On the other hand, income trade elasticity is the percentage change in the quantity exported or imported given a percentage change in the income of the consumer.

There are plethora of studies which have tried to work out the trade elasticities for various countries and commodities in different sectors at different level of disaggregation. Hauk Jr. (2012) used the three stage least square panel data approach, and tried to create a new dataset on sectoral level import and export elasticities in the U.S for the years 1978 - 2001. In addition, Hauk Jr.'s Paper also provided a dataset listing trade elasticities for a broad range of sectors of the North American industry classification system, i.e. 4-digit, and 6-digit and the Harmonized tariff system 6-digit, and 10 digit levels of industry classification. Kang (2012) used first difference and second difference GMM estimator, and examined the income elasticities for the categories of goods traded between China and Korea. They have also found that inclusion of new variety terms evidently reduces the magnitude of income elasticities of the goods in most categories, which they found was consistent with the implication from the new trade theory. Tokarick (2010) instead of using conventional econometric models to estimate trade elasticities, used the general equilibrium model which uses GDP function approach to estimate elasticities. The paper reported empirical estimates of import demand and export supply elasticities for a large number of low, middle, and upper income countries. Hooper *et al* (2000) used Johansen Co-integration technique to estimate long-run elasticities and error correction method to estimate short-run elasticities. The purpose of Hooper's paper was to estimate and test the stability of income and price elasticities derived from conventional equations relating the foreign trade of G-7 countries to their respective income and relative prices.

Kee *et al* (2008) used semi flexible translog GDP function approach and estimated import elasticities for a broad group of countries at a much disaggregated level of product detail. Marquez and McNeilly (1988) estimated income and price elasticities of non-oil exports of non-OPEC developing countries to the major industrial countries, using unrestricted dynamic panel data approach and relaxing three restrictions: (a) use of multilateral trade flows aggregated across both countries and commodities, (b) omission of price effects, and (c) reliance on ordinary least square estimation, and found that income elasticity for exports of Non-OPEC developing countries varies from 1.4 to 1.9, a relatively narrow range of variation when compared to previous studies. Bobic (2010) used Arellano Bond method (dynamic panel data approach) and estimated price and income elasticities of Croatian trade flows using

disaggregated data by industries for the period 2000 – 2007, and showed less sensitivity of both exports and imports to prices and stronger income effects. Imbs and Mejean (2010) adopted econometric methodology of Feenstra (1994) to estimate structurally the substitution elasticity for more than 30 countries. Their weighted averages were used to get price and income trade elasticities. Their results implied constrained import elasticities ranging from 0.5 to 2.7. Export elasticities displayed less dispersion and ranged in absolute value from 0.9 to 2.25.

Among the few Indian studies, Mehta and Mathur (2004) used panel data approach to estimate price and income elasticities for top 20 commodity codes exported to USA at 6-digit level of disaggregation. They also developed a framework for forecasting annual exports at regular intervals, for principal trading partners and principal commodities, using time series forecasting technique.

India's textile industry was one of the front-runners as far as total exports are concerned and still remains one of the top five sectors in terms of trade surplus. Conducting a competitiveness study for this sector exclusively will be relevant not only in terms of assessment of competitiveness of this sector but also in terms of devising destination specific textile sector export promotion policies customized for specific regions of the world keeping in mind their different tastes and policy environments.

This paper aims to estimate export price and export income elasticities for six export destinations, namely Spain, USA, UK, Germany, China and France, in order to assess the export competitiveness of top textile commodities exported to these countries. The top six export destinations are selected based on the list of top export destinations of textile exports by India as mentioned in the Ministry of Textiles' recent note on textiles & clothing exports of India. The top fifteen commodities for each country are selected based on the Mode criterion i.e., the number of the times the commodity has appeared in the list of top 15 commodities in the last 6 years (2007 – 2012), from around 700 textile commodities traded at 6-digit level of HS classification, using Ministry of Commerce Export-import database. In addition, forecasting exports of these commodities till the year 2015 is attempted.

The paper is organized in five sections including Introduction as Section 1. The second section describes the methodology used for estimation. The third section discusses the construction of variables and the database used. The fourth section on empirical results gives the detailed trade elasticity results for each export destination. The section on forecasting estimates the value of exports for the forecasted period using the commodity specific income elasticities. Fifth and concluding section explains the results of the analysis conducted in the paper and also puts forth policy recommendations for needed course correction.

2. Methodology

The methodology used in this study for generating the elasticities is the dynamic panel data approach. In particular, Arellano Bond method has been used to estimate the price and income elasticities for separate panels constructed for each export destination for top 15 textile products over the period of 12 years (2001-2012).

$$LogV_{it}^{X} = b_{i0} + b_{i1}LogV_{it-1}^{X} + b_{i2}Logp_{it}^{X} + b_{i3}LogI_{it}^{X} + e_{it} \qquad (1)$$

The double log specification is used to estimate the elasticities. In equation (1), V_{it}^{X} is the value of exports for commodity 'i' at time period't' and V_{it-1}^{X} is lagged value of exports. p_{it}^{X} is the price of the exported commodity which is exported, whereas I_{it}^{X} is the commodity specific income variable. b_{i2} and b_{i3} are the coefficients to be estimated. The present analysis requires the estimation of price and income export elasticities for the top fifteen commodities exported to top 6 textile export destinations. The selected commodities are at 6- digit level of HS Classification. The sample considered for this analysis is given in Annexure 1. The data collected is for 12 years (2001 -- 2012) for each commodity. Separate panels are then constructed for each country for estimating trade elasticities. Each panel thus consists of 180 observations.

The forecasts are made for value of exports for each commodity separately till 2015. For forecasting the value of exports, a three-stage procedure is followed. Firstly, the income data is extrapolated using time series forecasting methodology. Time series ARMA modeling techniques used to extrapolate the data for commodity specific income in each panel. Secondly, the commodity specific income elasticities are estimated using ordinary least square method for each commodity category within a panel (see Table 2). Finally, the growth rate of commodity specific income for each commodity is calculated for the extrapolated years. Growth rate is then multiplied with the elasticities to obtain the percentage change in the value of exports for each commodity separately. The percentage changes are then used to get the value of exports for each commodity exported to each country, separately for the period 2013 to 2015.

3. Variables and Data Description

The estimation and forecasts consists of three main variables: Price (in $), value of commodities exported (in $) and the proxy for the income of the importing nation at 6-digit level of disaggregation. A derived variable is the ratio of the price at which India exports a particular commodity to a particular export destination and the average price at which the same commodity is imported by the same export destination by countries other than India. This relative price ratio is a measure of the competitiveness of India's export price to a particular country, say USA, vis-à-vis the price that prevails in rest of the countries apart from India. The price data is derived from two sources, viz. UN COMTRADE and Ministry of Commerce export import database. The price figures for the commodities traded are not directly available as both these datasets report only the value and the quantity of the commodity traded. The price figures are thus derived by dividing value of export of a particular commodity by its quantity exported. Data on value of commodities exported is directly available from both the sources for commodities at 6-digit level of disaggregation. Income data of importing nations is not available at commodity level for computing export income elasticities for products exported to respective countries by India. The total of import demand (value of imports) of these commodities from the importing nations, across the world is used as the proxy for income. The price ratio is the ratio of actual price at which the commodities are traded and its competitive price. The actual price as mentioned is computed by dividing the value of the commodity traded by its quantity. For the denominator, the value of a particular commodity imported by a particular export destination is netted out of value of products imported from India. A similar procedure is followed for quantities exported as well. After getting both

values and quantity data netted out for the Indian case, both are divided to get the competitive price. The predicted sign for price export elasticity is negative whereas for income export elasticity, the sign is positive[2]. The cases where the signs may be the other way round are the Giffen good case where the sign for price elasticity would be positive, and the inferior good case where the sign for income export elasticity would be negative.

4. Empirical Results

In order to see whether the results are in line with our expectations, regressions are run for each panel constructed for each country separately. As mentioned before, the Arellano Bond method has been used to estimate the elasticities. Following are the results for both price and income elasticities for each export destination. The elasticity results in Table 1 are average elasticity results for all the fifteen commodities taken together, which are exported by India to different export destinations.

The price elasticity results given in Table 1 vary from 0.167to 0.543 in absolute terms. The income elasticity varies from 0.428 to 0.943.The signs of the price elasticity coefficients are as predicted except for China. The signs of income elasticity coefficients are as predicted and significant at one percent level. The price elasticity coefficients for all export destinations are less than unity which implies that exports to each export destination are price competitive.

The lowest price elasticity is estimated for United Kingdom, which implies the set of products which are exported to UK has strong demand, and thus is not vulnerable to any price shocks. India has also performed well in USA markets as the price elasticity is merely 0.173 which is just above that of UK (0.167) and above Spain where price elasticity for Indian exports is approximately 0.2 in absolute terms. The products exported to China mostly include cotton yarn and man-made fibers. The price elasticity for goods exported to China is positive which suggests that the raw products exported to China are of Giffen good nature. However, the income elasticity is positive which implies that the goods exported to China are not inferior. In income elasticity terms, India's top performance is in case of Spain. The set of commodities exported to Spain has the lowest income elasticity implying that the commodities exported to Spain are trade competitive in income terms. For the set of commodities exported to France and UK, the estimated income elasticities are also quite low but in Chinese case, the income elasticity is almost unity implying that the top textile commodities exported to China by India are relatively less income competitive and are vulnerable to income shocks.

[2] The predicted signs as mentioned for both price and income elasticities come from the simple demand curve theory. Since price and demand have negative relationship, the sign of the price elasticity coefficient will be negative. Similarly, for income elasticity, the coefficient for elasticity will be positive because of positive relationship between income and demand.

Table 1: Price and Income Export Elasticity Results

Export Trade Elasticties for Different Export Destinations						
Country Independent Variable (in logs)	**USA**	**UK**	**Germany**	**France**	**Spain**	**China**
$Logp_{it}^{X}$	-0.173*** (0.045)	- 0.167** (0.082)	- 0.234* (0.1314)	- 0.471*** (0.1006)	- 0.199* (0.105)	0.543** (0.231)
$LogI_{it}^{X}$	0.559*** (0.1736)	0.445*** (0.149)	0.769*** (0.1794)	0.512*** (0.1082)	0.428*** (0.0966)	0.943*** (0.228)
$LogV_{it-1}^{X}$	0.787*** (0.0466)	0.7658*** (0.0478)	0.635*** (0.0658)	0.730*** (0.0360)	0.7244*** (0.0439)	0.3711*** (0.0947)
Constant	-7.331** (3.1882)	-4.643* (2.5966)	-8397*** (2.9821)	-4.397*** (1.7383)	-2.952*** (1.278)	-8.853*** (3.431)
Number of Observations	180	180	180	180	180	180
Wald Test Statistic	595.83***	446.84***	248.91***	748.45***	1014.96***	106.41***

Note: standard errors are reported in parentheses below the elasticity estimates; * significant at the .10 le level; ** at .05 the level; *** at the .01 level.

Source: Author

Table 2: Commodity Specific Income Export Elasticities

USA		UK		France		Germany		China		Spain	
C. Code	**Elasticity**	**C. Code**	**Elasticity**	**C. Code**	**Elasticity**	**C. Code**	**Elasticity**	**C. Code**	**Elasticity**	**C. Code**	**Elasticity**
610910	2.213*** (0.4280) N= 12 R^2: 0.94	**610910**	1.788*** (0.4034) N=12 R^2: 0.68	**610910**	2.134*** (0.1887) N=12 R^2: 0.94	**610910**	1.664*** (0.3104) N=12 R^2: 0.77	**520100**	2.577*** (0.6087) N=12 R^2: 0.71	**620630**	1.225*** (0.1940) N=12 R^2: 0.83
630260	2.791*** (0.3926) N= 12 R^2: 0.85	**620442**	1.192*** (0.1134) N=12 R^2: 0.95	**620630**	0.991*** (0.2560) N=12 R^2: 0.97	**620630**	1.297*** (0.1559) N=12 R^2: 0.94	**520511**	0.839*** (0.1236) N=12 R^2: 0.92	**620442**	1.137*** (0.0986) N=12 R^2: 0.94
620640	1.967*** (0.6599) N=12 R^2: 0.49	**620630**	1.342*** (0.1316) N=12 R^2: 0.92	**620442**	1.211*** (0.1376) N=12 R^2: 0.95	**611120**	1.170*** (0.3220) N=12 R^2: 0.72	**520512**	0.736*** (0.2023) N=12 R^2: 0.78	**610910**	1.810*** (0.0593) N=12 R^2: 0.99
630231	3.326*** (0.4976) N=12 R^2: 0.83	**611120**	2.004*** (0.2126) N=12 R^2: 0.90	**620520**	0.579*** (0.1472) N=12 R^2: 0.68	**550320**	7.180*** (1.217) N=12 R^2: 0.80	**520514**	1.410*** (0.2006) N=12 R^2: 0.86	**620520**	0.885*** (0.1312) N=12 R^2: 0.84
620630	0.790*** (0.2373) N=12 R^2: 0.55	**620520**	0.928*** (0.2198) N=12 R^2: 0.67	**611120**	1.715*** (0.2177) N=12 R^2: 0.87	**620520**	0.942*** (0.1104) N=12 R2: 0.91	**550410**	2.620** (1.184) N=12 R^2: 0.69	**621490**	1.358*** (0.0921) N=12 R^2: 0.96
620520	1.132*** (0.3102) N=12 R^2: 0.59	**630620**	3.091* (1.632) N=12 R^2: 0.13	**610510**	0.477** (0.1872) N=12 R^2: 0.59	**531010**	0.917* (0.1936) N=12 R^2: 0.81	**610910**	2.964*** (0.3947) N=12 R^2: 0.88	**610442**	1.073*** (0.1244) N=12 R^2: 0.90
570110	0.772** (0.2599) N=12 R^2: 0.58	**620443**	1.257*** (0.2069) N=12 R^2: 0.85	**621490**	0.720*** (0.1589) N=12 R^2: 0.93	**610610**	1.096*** (0.1252) N=12 R^2: 0.89	**620630**	-0.541 (1.011) N=12 R^2: 0.56	**620640**	1.070*** (0.1813) N=12 R^2: 0.89
620442	1.092*** (0.1140) N=12 R^2: 0.91	**620640**	2.201*** (0.7310) N=12 R^2: 0.64	**630492**	0.704* (0.2481) N=12 R^2: 0.55	**620640**	1.819 (1.173) N=12 R^2: 0.48	**520524**	1.231*** (0.4829) N=12 R^2: 0.43	**630492**	1.017*** (0.1220) N=12 R^2: 0.88
610510	1.230*** (0.1941) N=12 R^2: 0.82	**620462**	1.054*** (0.2953) N=12 R^2: 0.66	**620342**	1.243*** (0.2547) N=12 R^2: 0.87	**630260**	4.476*** (1.304) N=12 R^2: 0.65	**620333**	1.388** (0.6259) N=12 R^2: 0.47	**620342**	0.830** (0.3245) N=12 R2: 0.85
570310	1.878* (0.8320) N=12 R^2: 0.44	**620342**	1.990*** (0.4928) N=12 R^2: 0.86	**620920**	1.143** (0.4047) N=12 R^2: 0.75	**520811**	0.8212*** (0.2202) N=12 R^2: 0.26	**620442**	2.905*** (0.4670) N=12 R^2: 0.87	**621420**	2.150*** (0.7686) N=12 R2: 0.55
620462	2.760	**610510**	0.892*	**630532**	3.135*	**620442**	1.018***	**620342**	1.909***	**620443**	0.956***

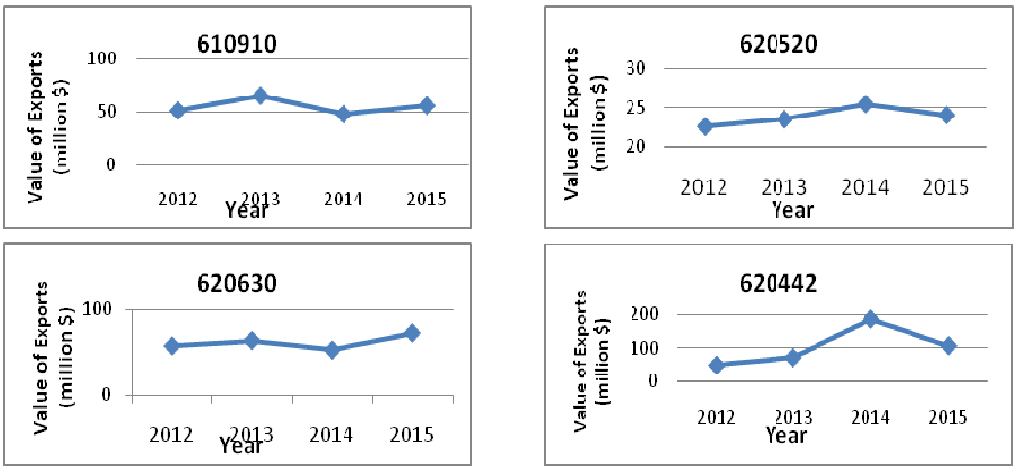
	(2.436) N=12 R^2: 0.12		(0.4154) N=12 R^2: 0.34		(1.459) N=12 R^2: 0.91		(0.1184) N=12 R^2: 0.89		(0.6811) N=12 R^2: 0.82		(0.1399) N=12 R2: 0.85
620342	4.237** (1.393) N=12 R^2: 0.51	**630532**	8.026*** (1.5803) N=12 R^2: 0.77	**620640**	0.624** (0.2894) N=12 R^2: 0.41	**570110**	-1.107 (0.3224) N=12 R^2: 0.57	**520513**	1.842*** (0.5314) N=12 R^2: 0.60	**630532**	5.507*** (0.8799) N=12 R2: 0.83
570500	0.947** (0.3760) N=12 R^2: 0.64	**540710**	1.102* (0.5411) N=12 R^2: 0.81	**620452**	1.467*** (0.2571) N=12 R^2: 0.79	**611020**	0.793** (0.3359) N=12 R^2: 0.39	**620520**	3.288*** (1.245) N=12 R^2: 0.67	**621142**	1.520*** (0.5932) N=12 R2: 0.59
610821	11.17** (4.738) N=12 R^2: 0.64	**620920**	0.499 (0.8060) N=12 R^2: 0.50	**620443**	0.506*** (0.1143) N=12 R^2: 0.68	**620342**	2.060*** (0.3951) N=12 R^2: 0.80	**550330**	1.471 (1.499) N=12 R^2: 0.57	**540233**	0.146 (1.033) N=12 0.27
611120	4.995*** (0.6247) N=12 R^2: 0.87	**610831**	0.922** (0.4984) N=12 R^2: 0.38	**611020**	0.735*** (0.2302) N=12 R^2: 0.56	**610510**	0.776*** (0.1915) N=12 R^2: 0.64	**611120**	1.800*** (0.3971) N=12 R^2: 0.74	**610510**	0.734*** (0.1731) N=12 R2: 0.87
****P<0.01, **P<0.05, *P<0.1* *(standard errors in parentheses)*											

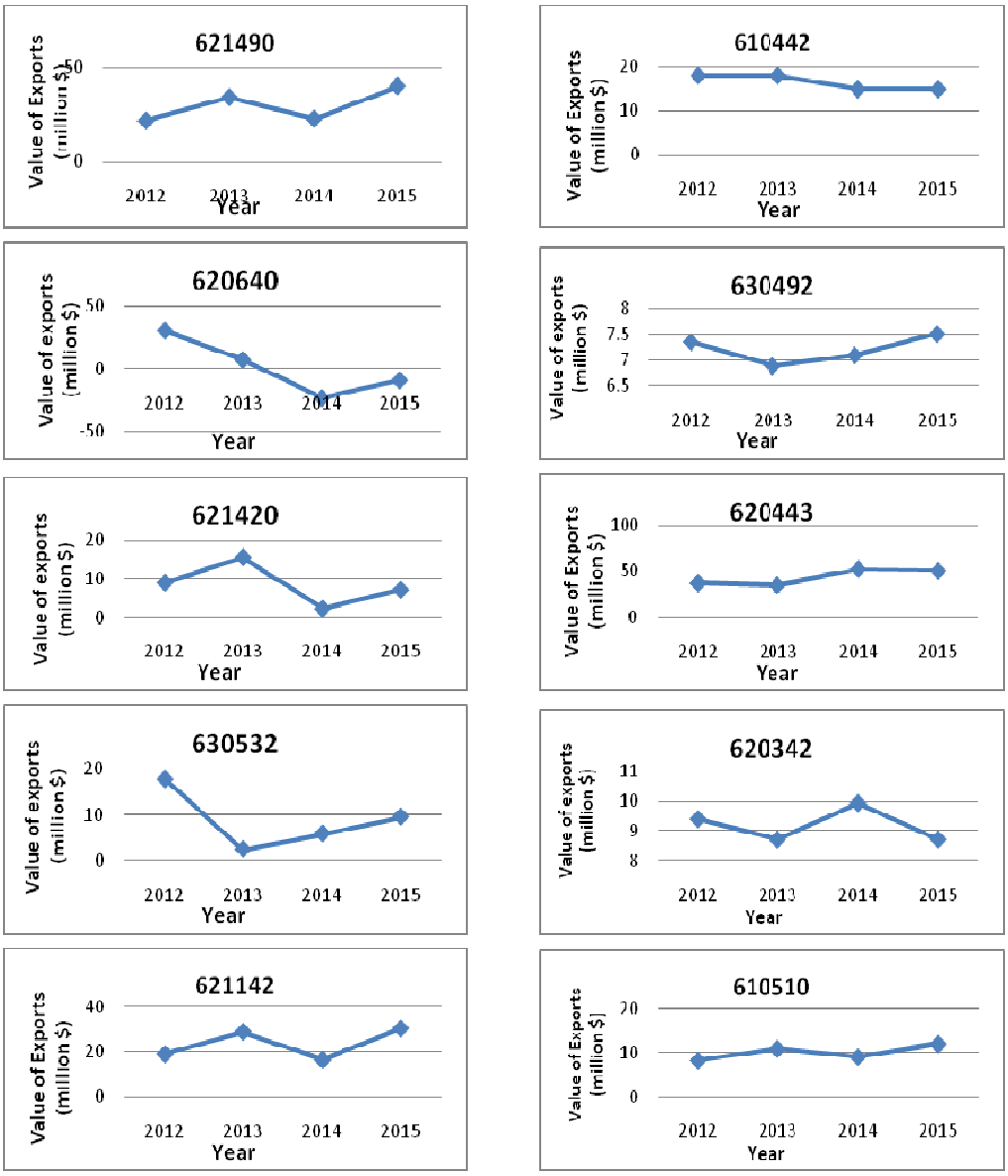
Source: Author

5. Forecasting

Provided in Figures 1 to 6 are the forecasting results of different commodities exported to respective export destinations . Figure 1 gives the forecasting results of Spain; in case of Spain, the performance of the commodities is more or less stable barring few commodity codes like 620640 which are blouses, shirts etc. of man-made fibers, where the value of exports again turns out to be negative for 2014, whereas for commodity codes 621420, and 630532, the value of exports almost touches zero for 2014 and 2013. Commodities 620342,620443, 610442 and 620520 also show a dip in their performance for the year 2015, however, the fall is not as swift as seen for codes 621420 and 630532. This raises concerns about the export performances of our top products in the future. We need to work on the competitiveness of these products so that these commodities fare well in terms of generating export surplus.

Figure 1: Forecasting Results for Value of Exports: Spain

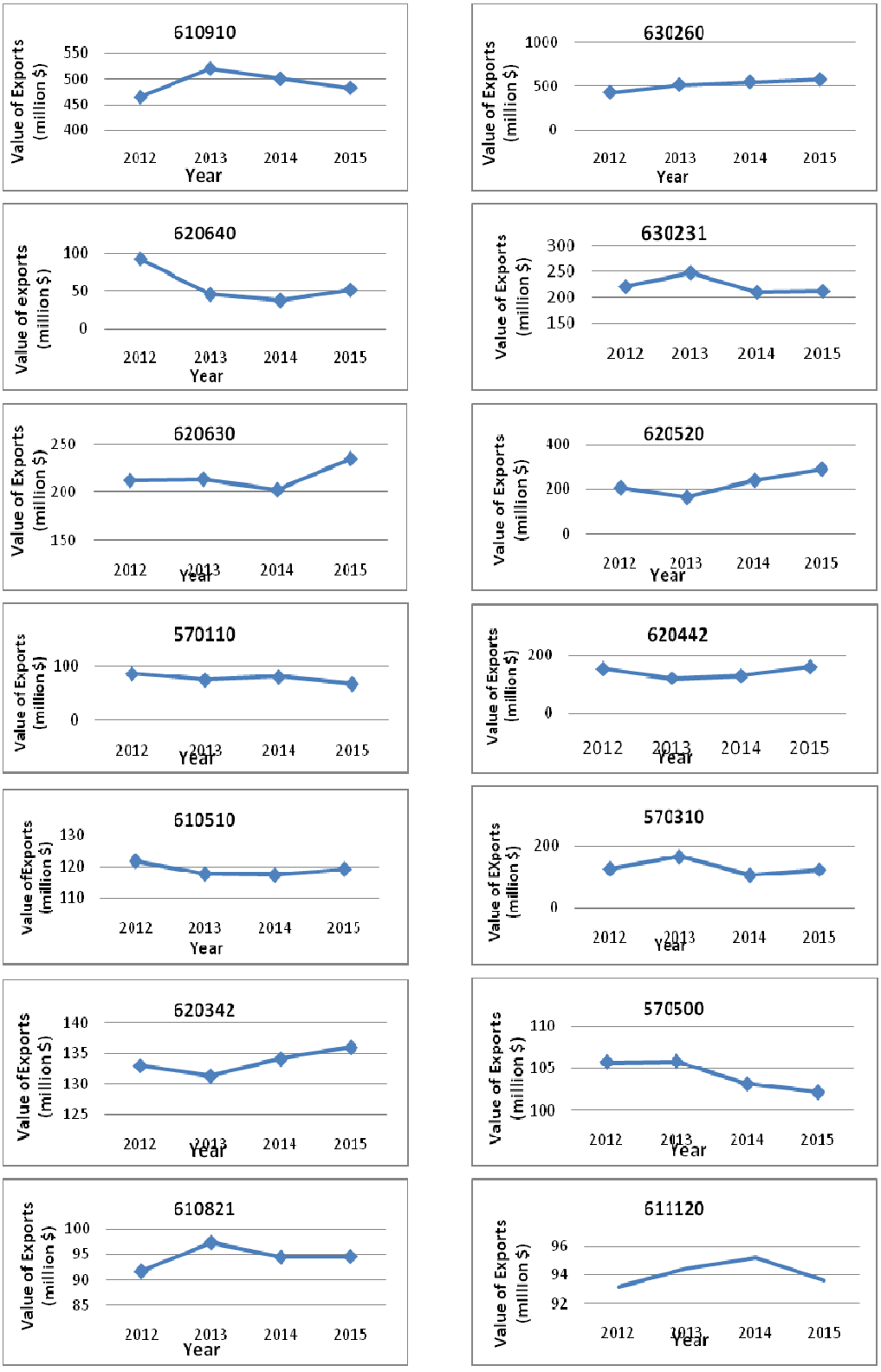




Source: Author

USA (figure 2) which is one of India's major trading partners has been a mixed bag of performance in terms of value of exports for the forecasted period. On one hand commodities like 630260, 620442, and 610510 have shown a sharp rise in the value of exports after 2013, on the other, there is a set of commodity codes including 611120 and 610910 whose performance has been anticlimactic in terms of their growth rates.

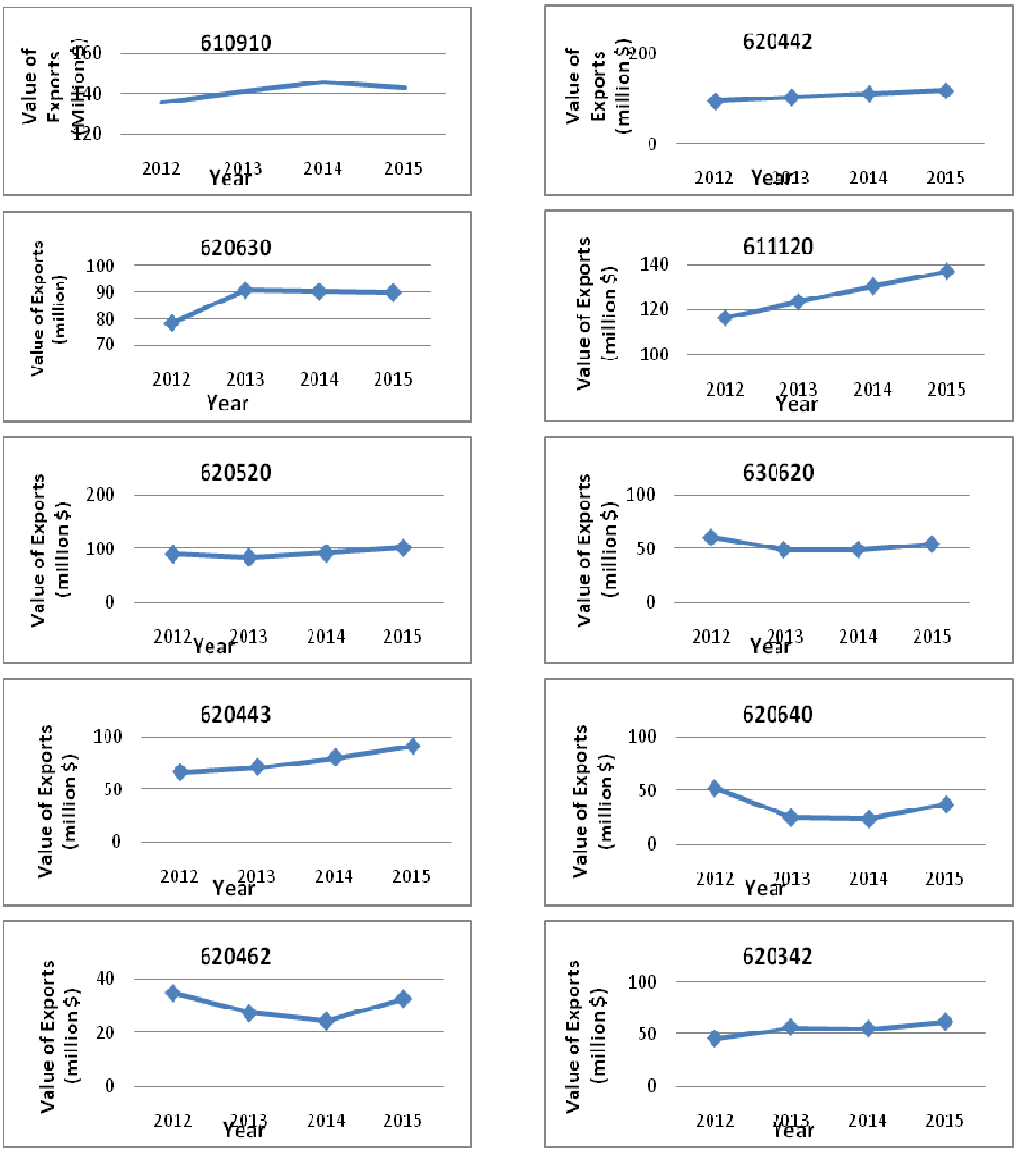
Figure 2: Forecasting Results for Value of Exports: USA

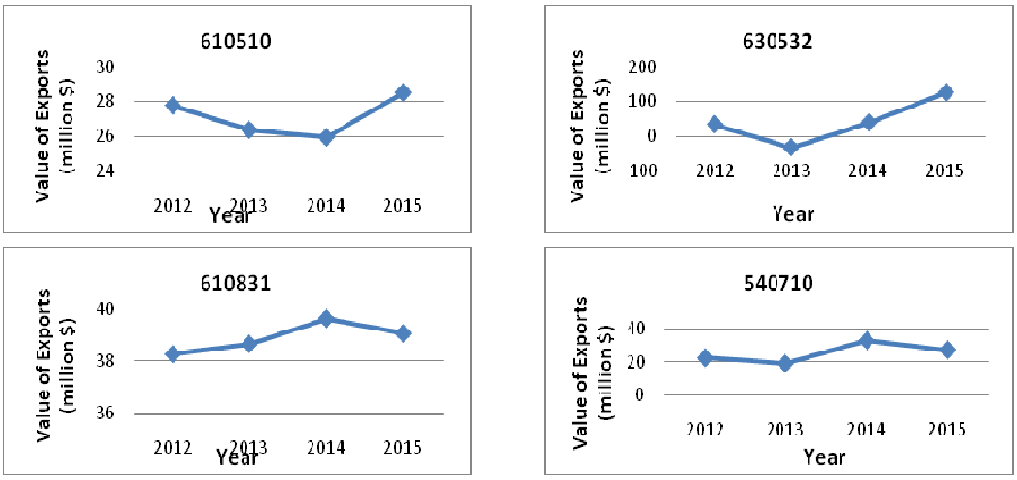


Source: Author

In case of United Kingdom (figure 3), India shows commendable performances in terms of value of exports of textile products for the forecasted period which includes commodity codes viz. 620442, 611120, and 620443. These commodities show a consistent increase in their value of exports, and thus these commodities are the front runners in terms of generating export surplus. On the other hand, commodity codes like 620640, 620462, 610510 and 630532 have performance graph in a 'U' shaped curve. This implies a decelerating performance in the middle years, but a substantial recovery subsequently.

Figure 3: Forecasting Results for Value of Exports: United Kingdom

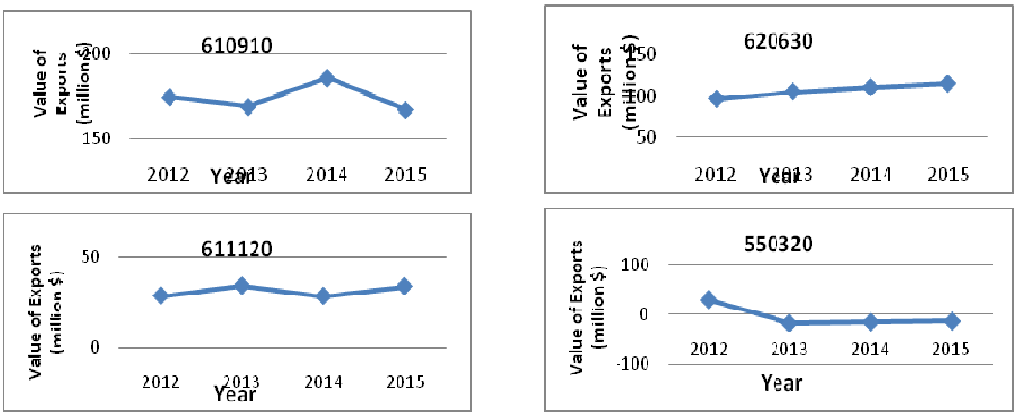


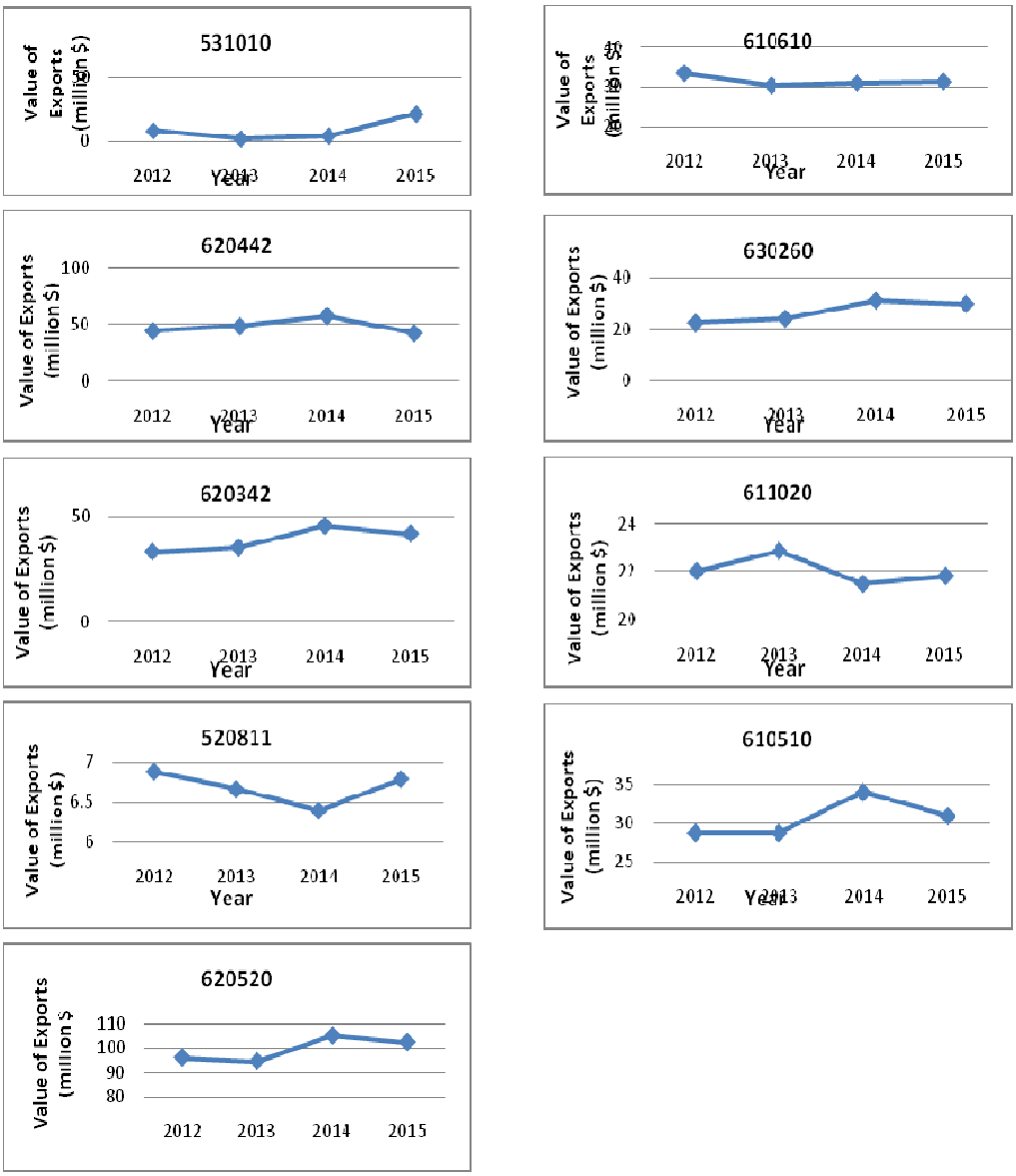


Source: Author

The products exported to Germany (figure 4) mostly include cotton products and textile yarn. For the forecasted period, the commodity codes 610910, 620442 and 610510 have a performance graph in an inverted 'U' shape. This simply implies that exports picked in 2013 and 2014 but declined immediately after that. For product code 550320 (staple fibers of polyester not carded/combed) the value of export turned negative in early 2013 without any sign of recovery in subsequent years.

Figure 4: Forecasting Results for Value of Exports: Germany

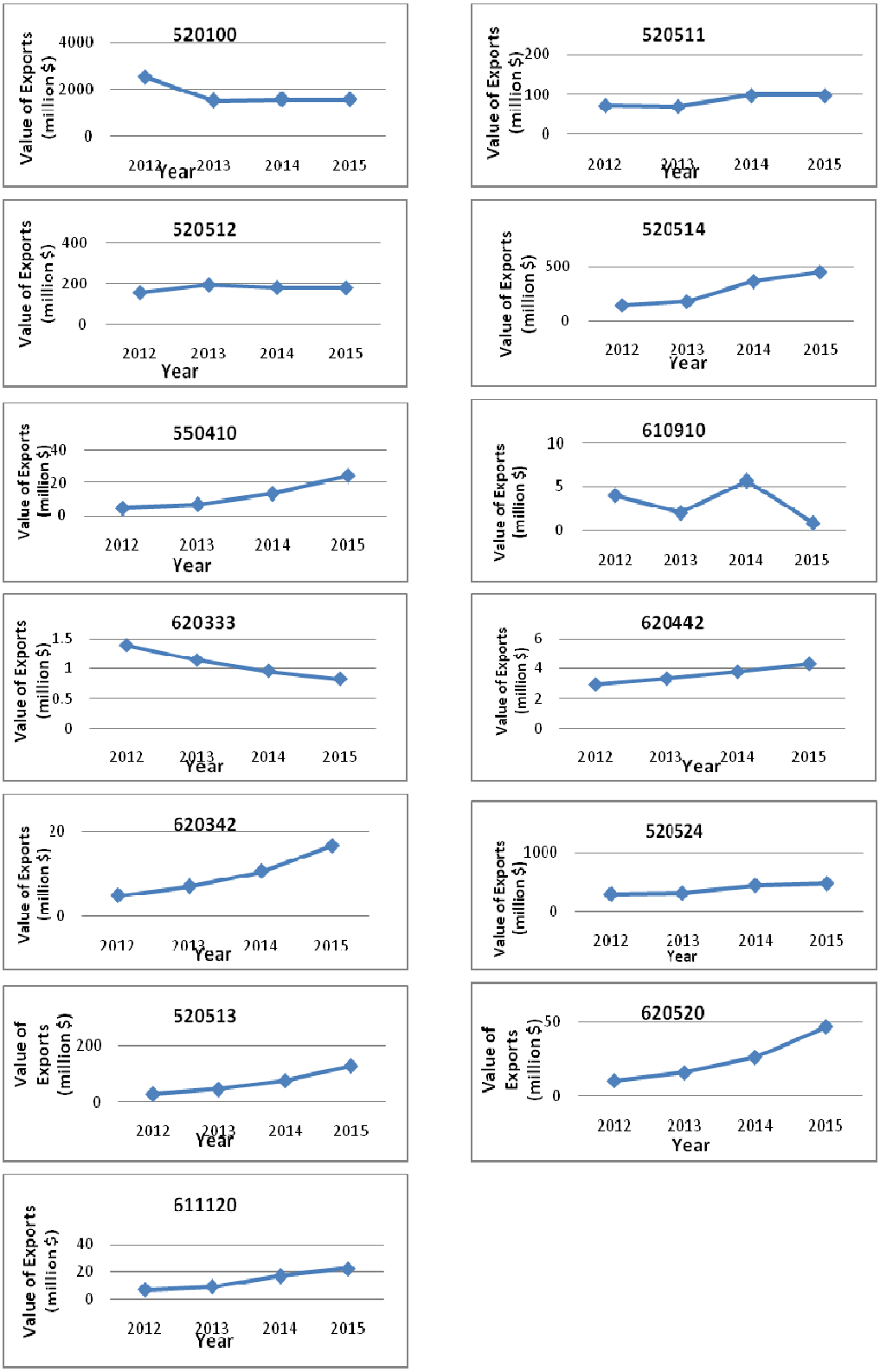




Source: Author

In Chinese case (figure 5), the Indian products have performed exceptionally well. Commodity codes like 620442, 620342, 520513, 520514, 550410 and 620520 have upward sloping performance graph for all the years under forecast. However, commodities like 620333 and 610910 have negative performance.

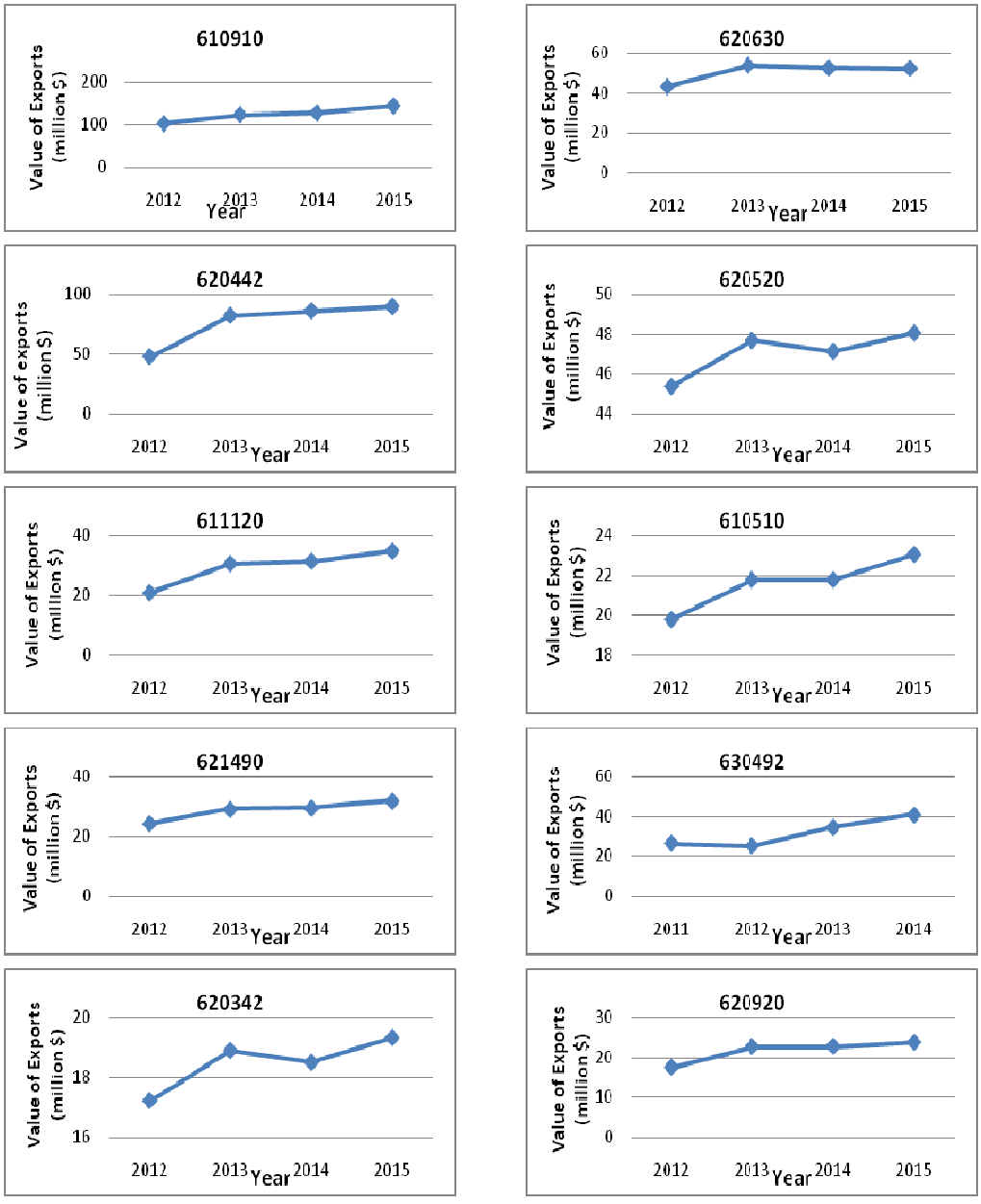
Figure 5: Forecasting Results for Value of Exports: China

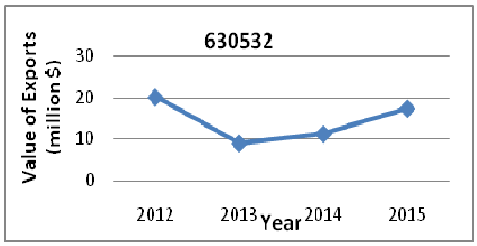


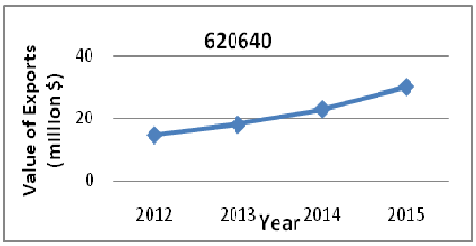
Source: Author

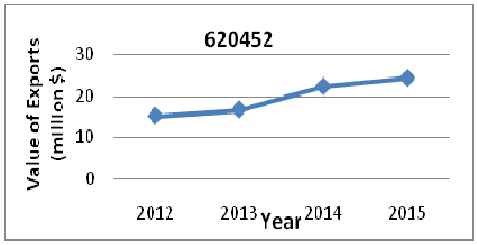
France (figure 6) has been the case where almost all the commodities show an upward trend in terms of value of exports for the forecasted period. Commodities viz. 610910, 620442, 611120, 610510, 621490, 620640, 620443 and 620452 have registered outstanding growth for the forecasted period. The performance curve of export value of commodity 630532 is 'U' shaped, while that of 611020 is in inverted 'U' shape.

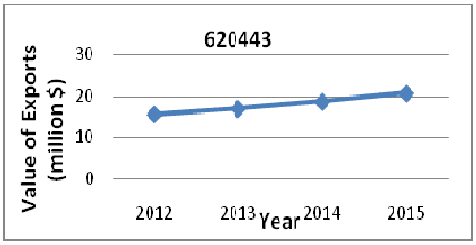
Figure 6: Forecasting Results for Value of Exports: France

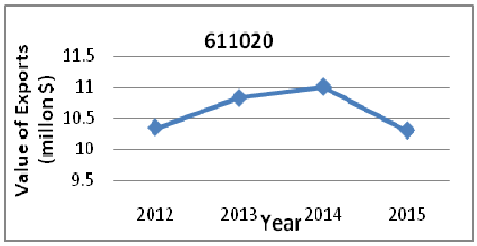












Source: Author

6. Conclusion

Competitiveness is presently the buzz- word in the manufacturing sector and especially after the liberalization of trade in textiles due to advent of Agreement on Textiles and Clothing (ATC). It is therefore imperative for textile firms to become trade competitive. The objective of the above academic exercise was to assess both income and price export competitiveness of top fifteen textile products exported to different countries. The results of the above exercise indicate that the export of textile commodities from India to Spain and the United Kingdom has fared remarkably well in terms of both price and income elasticities in comparison to export of textile products to other export destinations.

The difference seen in trade competitiveness of commodities exported to different nations is an indication that India needs to device commodity specific trade policies for each trading partner in order to ensure that the trade competitiveness of the country's top textile commodities is maintained. It is also important to understand that each export destination has its own peculiar characteristics and implementing one common trade policy across all export destinations without considering country and commodity specific needs, will not serve the purpose. There will be no way to understand why one commodity performs so well in one country and not so well in a different country. The set of commodities exported to France and Germany is almost identical but the price export elasticities vary starkly between the countries.

The extent of variation in the price elasticities across nations has been more than income elasticities. After getting the average elasticities, the next step was to forecast the exports for the whole sample of commodities using commodity specific income elasticities. The projections made for all the

commodities for different export destinations have been more or less heterogeneous. Forecasting results imply that the commodities which performed well in the past in terms of export earnings are not risk-free and their performance might decline in the future. The whole idea behind conducting the forecasting exercise was to ensure that the commodities which may lag behind in terms of value of exports are made competitive well in advance with right policy interventions. This analysis marks the beginning of such an exercise where each country is separately considered for its trade competitiveness. Also this analysis is limited to only to one sector as standard trade policies devised for the entire trade sector are seldom meaningful.

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ANNEXURE 1: COUNTRIES AND COMMODITIES CONSIDERED FOR ANALYSIS

SL. NO.	COMMODITY CODE	COMMODITY DETAILS
USA		
1	610910	T-SHIRTS, SINGLETS, OTHER VESTS, KNITTED OR CROCHETED, OF COTTON
2	630260	TOILET LINEN, KITCHEN LINEN, OF TERRY TOWELLING, OF COTTON
3	620640	BLOUSES,SHIRTS ETC OF MAN-MADE FIBRES
4	630231	OTHER BED LINEN OF COTTON
5	620630	BLOUSES,SHIRTS & SHIRTS-BLOUSES OF COTTON
6	620520	MEN'S OR BOYS' SHIRTS, OF COTTON
7	570110	CARPETS & OTHER TEXTILE FLOOR COVERINGS OF WOOL OR FINE ANIMAL HAIR, KNOTTED
8	620442	DRESSES OF COTTON
9	610510	MEN'S/BOYS' SHIRTS OF COTTON
10	570310	CARPETS AND OTHER TEXTILE FLOOR COVERINGS OF WOOL/FINE ANIMAL HAIR TUFTD,W/N MADE UP
11	620462	TROUSERS,BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF COTTON
12	620342	TROUSERS BIB & BRACE OVERALLS BREECHES & SHORTS OF COTTON FOR MEN'S & BOYS'
13	570500	OTHER CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WHETHER OR NOT MADE UP
14	610821	BRIEFS AND PANTIES OF COTTON
15	611120	BABIES'GARMENTS ETC OF COTTON
UNITED KINGDOM		
1	610910	T-SHIRTS, SINGLETS, OTHER VESTS, KNITTED OR CROCHETED, OF COTTON
2	620442	DRESSES OF COTTON
3	620630	BLOUSES,SHIRTS & SHIRTS-BLOUSES OF COTTON
4	611120	BABIES'GARMENTS ETC OF COTTON
5	620520	MEN'S OR BOYS' SHIRTS, OF COTTON
6	630260	TOILET LINEN, KITCHEN LINEN, OF TERRY TOWELLING, OF COTTON
7	620443	DRESSES OF SYNTHETIC FIBRES
8	620640	BLOUSES,SHIRTS ETC OF MAN-MADE FIBRES
9	620462	TROUSERS,BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF COTTON
10	620342	TROUSERS BIB & BRACE OVERALLS BREECHES & SHORTS OF COTTON FOR MEN'S & BOYS'
11	610510	MEN'S/BOYS' SHIRTS OF COTTON
12	630532	FLEXIBLE INTERMEDIATE BULK CONTAINERS OF MAN MADE TEXTILE MATERIALS
13	540710	WOVN FBRCS OBTND FROM HIGH TENACITY YRN OFNYLON OR OTHR POLYAMIDES,OR OF POLYESTERS
14	620920	BABIES' GRMNTS & CLOTHNG ACCSSRS OF COTTON
15	610831	NIGHTDRESSES AND PYJAMAS OF COTTON
FRANCE		
1	610910	T-SHIRTS, SINGLETS, OTHER VESTS, KNITTED OR CROCHETED, OF COTTON
2	620630	BLOUSES,SHIRTS & SHIRTS-BLOUSES OF COTTON
3	620442	DRESSES OF COTTON
4	620520	MEN'S OR BOYS' SHIRTS, OF COTTON
5	611120	BABIES'GARMENTS ETC OF COTTON

6	610510	MEN'S/BOYS' SHIRTS OF COTTON
7	621490	SHWLS,SCRVS ETC OF OTHER TXTL MATERIALS
8	630492	OTHR FRNSHNG ARTCLS OF COTN,NT KNTD/CRCHTD
9	620342	TROUSERS BIB & BRACE OVERALLS BREECHES & SHORTS OF COTTON FOR MEN'S & BOYS'
10	620920	BABIES' GRMNTS & CLOTHNG ACCSSRS OF COTTON
11	630532	FLEXIBLE INTERMEDIATE BULK CONTAINERS OF MAN MADE TEXTILE MATERIALS
12	620640	BLOUSES,SHIRTS ETC OF MAN-MADE FIBRES
13	620452	SKIRTS AND DIVIDED SKIRTS OF COTTON
14	620443	DRESSES OF SYNTHETIC FIBRES
15	611020	JERSEYS ETC OF COTTON
GERMANY		
1	610910	T-SHIRTS, SINGLETS, OTHER VESTS, KNITTED OR CROCHETED, OF COTTON
2	620630	BLOUSES,SHIRTS & SHIRTS-BLOUSES OF COTTON
3	611120	BABIES'GARMENTS ETC OF COTTON
4	550320	STAPLE FIBRES OF POLYESTER NT CRD/CMBD
5	620520	MEN'S OR BOYS' SHIRTS, OF COTTON
6	531010	UNBLECHD WOVEN FABRICS OF JUTE/OTHER TEXTILE BAST FIBRES
7	610610	BLOUSE ETC OF COTTON
8	620640	BLOUSES,SHIRTS ETC OF MAN-MADE FIBRES
9	630260	TOILET LINEN, KITCHEN LINEN, OF TERRY TOWELLING, OF COTTON
10	520811	COTN FABRCS CONTNG>=85% BY WT OF COTN, UNBLEACHED PLAIN WEAVE WEIGING <=100 G/M2
11	620442	DRESSES OF COTTON
12	570110	CARPETS & OTHER TEXTILE FLOOR COVERINGS OF WOOL OR FINE ANIMAL HAIR, KNOTTED
13	611020	JERSEYS ETC OF COTTON
14	620342	TROUSERS BIB & BRACE OVERALLS BREECHES & SHORTS OF COTTON FOR MEN'S & BOYS'
15	610510	MEN'S/BOYS' SHIRTS OF COTTON
CHINA		
1	520100	COTTON, NOT CARDED OR COMBED
2	520511	SNGL YRN OF UNCMBD FBRS MEASURNG 714.29 DCTX/MORE(NT EXCDNG 14 MTRC NO)
3	520512	SNGL YRN OF UNCMBD FBRS MEASURING= 232.56 DCTX(> 14 BUT <=43 MTRC NO)
4	520514	SNGL YRN OF UNCMBD FBRS MEASURNG=125 DCTX(>50 BUT <=80 MTRC NO)
5	550410	VISCOSE RAYON STAPLE FIBRES NT CRD/COMBD
6	610910	T-SHIRTS, SINGLETS, OTHER VESTS, KNITTED OR CROCHETED, OF COTTON
7	620630	BLOUSES,SHIRTS & SHIRTS-BLOUSES OF COTTON
8	520524	SNGL YRN OF CMBD FBRS MEASURNG=125 DCTX(>52 BUT <=80 MTRC NO)
9	620333	JACKTS & BLAZERS OF SYNTHETIC FIBRES
10	620442	DRESSES OF COTTON
11	620342	TROUSERS BIB & BRACE OVERALLS BREECHES & SHORTS OF COTTON FOR MEN'S & BOYS'
12	520513	SNGL YRN OF UNCMBD FBRS MEASURNG=192.31 DCTX(>43 BUT <=52 MTRC NO)

13	620520	MEN'S OR BOYS' SHIRTS, OF COTTON
14	550330	STAPLE FIBRS OF ACRLC/MODACRLC NT CRD/CMBD
15	611120	BABIES'GARMENTS ETC OF COTTON
SPAIN		
1	620630	BLOUSES,SHIRTS & SHIRTS-BLOUSES OF COTTON
2	620442	DRESSES OF COTTON
3	610910	T-SHIRTS, SINGLETS, OTHER VESTS, KNITTED OR CROCHETED, OF COTTON
4	620520	MEN'S OR BOYS' SHIRTS, OF COTTON
5	621490	SHWLS,SCRVS ETC OF OTHER TXTL MATERIALS
6	610442	DRESSES OF COTTON
7	620640	BLOUSES,SHIRTS ETC OF MAN-MADE FIBRES
8	630492	OTHR FRNSHNG ARTCLS OF COTN,NT KNTD/CRCHTD
9	620342	TROUSERS BIB & BRACE OVERALLS BREECHES & SHORTS OF COTTON FOR MEN'S & BOYS'
10	621420	SHWLS,SCARVES ETC OF WOOL/FINE ANML HAIR
11	620443	DRESSES OF SYNTHETIC FIBRES
12	630532	FLEXIBLE INTERMEDIATE BULK CONTAINERS OF MAN MADE TEXTILE MATERIALS
13	621142	OTHR GRMNTS OF COTTON FR WOMEN'S OR GIRLS'
14	540233	TEXTURED YARN OF POLYESTERS
15	610510	MEN'S/BOYS' SHIRTS OF COTTON

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Dr V K R V Rao Road, Nagarabhavi P.O., Bangalore - 560 072, India
Phone: 0091-80-23215468, 23215519, 23215592; Fax: 0091-80-23217008
E-mail: vani@isec.ac.in; Web: www.isec.ac.in