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NEGATIVE EXPORT GROWTH OF PAKISTAN DURING 2011-16: A CONSTANT MARKET SHARE ANALYSIS

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ABSTRACT

Pakistan is experiencing a constant negative export growth trend from 2011. The purpose of this article is to assess the reason of this negative trend. For this purpose, this study has used Constant Market Share Analysis (CMS). This methodology is commonly used for such analysis. The methodology is very important for the policy makers and economic managers to take appropriate and relevant measures for export growth. The analysis revealed that the world demand and competitiveness are the issues which have resulted in negative export growth of Pakistan over the last few years. Therefore, Pakistan's trade policy should focus on those measures which address the issue of competitiveness. The analysis did not find any impact of price on the low export growth, so the measures for market access through low price is not effective. The highly negative world demand effect and separate analysis for major products and geographical regions shows very concentrated exports of few sectors and regions, which suggest focusing on the measures for export diversification.

***Key words**: Constant Market Share Analysis, Negative Growth, Exports, Demand Effect, Composition Effect, Competitiveness Effect, Pakistan*

INTRODUCTION

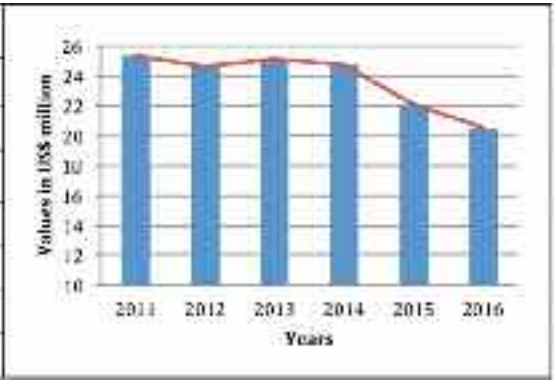
The significance of export expansion as an apparatus of economic development has turn into a most debated issue in the field of development economics and international trade. Majority of the economists underline the significance of exports to instigate economic development and have contended for export led policies or import substituting measures. According to Bhagwati (1973), 'the exports of a country represent an indicator of economic development.' The economists and policy makers believe that increase in exports act as a catalyst for expansion in economic activity and carries an essential part in the economic welfare by improving the living standards through rise in per capita income and maintain the living cost.

Export expansion is considered as a core macroeconomic variable to increase economic growth in developing as well as developed economies (Sakyi, Commodore, & Opoku, 2015). Increase in exports empowers the manufacturing of products and services through a wide range of possible prospects like efficient allocation of resources, dispersion of specialized information, competitive firms, cost reduction through competitive advantage, increase in capital formation and foreign investments (Shaikh & Shaikh, 2012). Consequently, it invigorates national production and exports of goods and services in international markets.

In the course of the most recent four decades, many developing economies have experienced a rapid increase in exports, imports, income per capita and energy consumption to promote economic growth. However, Pakistan is facing a continuous declining trend in exports for the last 5 years. During the year 2011 the export level was US$ 25.3 billion which has been reduced to US$ 20.5 billion in 2016, which showed a negative average growth of -4.0% during the years 2012-2016.

Table 1. Pakistan's Exports (2011-2016)

Years	Value (US$ billion)	Growth (%)
2011	25.34	
2012	24.62	-2.8
2013	25.12	2.0
2014	24.72	-1.6
2015	22.09	-10.6
2016	20.53	-7.1
Average growth		-4.0



Source: ITC

Table 1. shows the overall export trend for the years 2011 to 2016. This sharp decline is a major concern for the policy makers in the country. It is important to note that Pakistan has been given zero rated market access by European Union from 1st July 2014, under GSP-Plus scheme. But the overall export still followed the same declining trend. Government of Pakistan tried to address this issue and took some steps to reverse the trend but could not be successful.

The purpose of this research is to find the reasons of this negative growth for the period 2011 to 2016. Our analysis will be based on Constant Market Share (CMS) analysis. This methodology is widely used for such analysis, which will be described in literature review section. It is important to note

that some of the studies have used this methodology for Pakistan, such as Ahmed and Wizarat (2015); Mahmood (2015); and Akbar (2000). However, all these studies have covered the period of positive export growth. This study is different in a way that it has covered the period from 2011 to 2016 when there was significant and persistent decline in exports earnings.

LITERATURE REVIEW

Constant Market Share Analysis (CMS) was first used by Tyszynski (1951), for analyzing export growth. The analysis is based on the assumption that over the time, export growth remains constant. If there is any change in the growth trend it is attributed to the world demand, competitiveness, market distribution and commodity composition effects.

Ahmed and Wizarat (2015), investigated Pakistan's export performance in the developed markets during the period 2003-12 through CMS analysis. Results of the CMS analysis showed negative effect for commodity composition. On the basis of this finding, the study suggested for commodity diversification. The period selected for this study showed a significant positive export growth. However, after 2012, Pakistan has been facing a constant declining trend in exports. Therefore, the results of this study may not be appropriate after 2012, when a change in export growth is evident.

Barbaros, Lenger, Akgüngör, and Aydoğuş (2007), used CMS analysis to examine the competitiveness of exports of organic agricultural products from Turkey to the European Union. The objective of the study was to find the factors that influence the performance of the country's exports. The study covered a period for 1999-2005 and divided the growth of exports into an export market growth (structural effect), improved competitiveness (competitiveness effect) and the collective effect of structure and competitiveness. The study found that the export growth of Turkey's selected organic agro products were due to the growth of EU markets.

Amador and Cabrel (2008), analyzed Portuguese export growth and market shares in the world during the period 1968-2006, using the CMS methodology. The study breakdown the export growth in terms of commodities and markets, separately. Authors concluded that the growth of Portuguese followed market share effect, which implies that the evidence of changes in each geographical market. They also stated that CMS analysis does not inform about the factors that induces changes in market share and therefore is considered as descriptive method.

Furthermore, Athanasoglou, Backinezos, and Georgiou (2010), examined the performance of Greek exports through constant market shares analysis. The study sued panel data on bilateral trade by product category and noted that the degree of specialization of Greek exports is relatively high. The finding of the CMS analysis suggested that in the product categories of mechanical equipment, metallurgical products, paper and glass, Greece can increase exports by concentrating on factors other than prices.

Previously and Veeramani (2007), used this method to shed light on the sources of growth of Indian exports in the period 1962-2005. The effective growth of exports was found greater than the potential offered by the growth of global demand. The researchers asserted that the gap between real and potential growth was mainly due to the competitiveness of exports, while world demand also played an important role in determination of export growth. Singh (2014), also used CMS technique to analyze the India's export performance in post liberalization period. His study covered the period 1991-2011, which also confirmed the same results as other researcher's findings that India's export growth is attributed to competitiveness effect.

In 2010, Jiménez and Martín used the CMS analysis to examine the changes in the market shares of the euro area and its member states for the period of 1994-2007. The authors noted that the geographical composition counteracted the negative effects due to the loss of competitiveness and that the euro countries were strongly influenced by the lower relative specialization of high technology products. Moreover, it was found that the high intra-euro exchange also positively supports exports from the euro area.

Previous literature on Constant market share analysis show that CMS is widely used for the analysis of export performance through which the positive or negative export growth is determined. On the basis of the research conducted, findings, and results of the CMS, a policy to address the objective to attain higher exports is designed. It is also observed through the literature review that so far; no study has used CMS analysis in Pakistan context to examine the export performance in a period when export is continuously declining. Thus, the findings of this study will cover this aspect and fill the research gap.

RESEARCH METHODOLOGY

The data was procured from United Nations Comtrade database (UN COMTRADE), which is accessible through World Bank's World Integrated Trade Solution (WITS) software. The data is at 2-digit level of Standard International Trade Classification (SITC), revision-3 for the period 2011-2016.

For data analyses, Constant Market Share (CMS) analysis is employed, to determine a disaggregation of export growth in terms of market and commodity composition growth, and increased competitiveness. CMS analysis is a statistical method frequently utilized as a part of the investigation of patterns of structural change in global trade. The traditional adaptation of CMS was introduced by Tyszynsky (1951); Leamer and Stern (1972), and Richardson (1971). It is a measuring tool used to assess the impact of structural factors on export growth and contribution in the import markets (Santeliz & Contreras, 2016). CMS calculates the divergence between the actual export growth and export growth computed on the assumption that each export flow grows in accordance with the export market- i.e. the exporting country's share of each commodity in each destination remains constant. Commodity wise exports are considered independent of each other. The estimator thus has taken the form:

$$\Delta X = \sum_{i=1}^{n} r X_i + \sum_{i=1}^{n} r_i X_i - \sum_{i=1}^{n} r X_i + \sum_{i=1}^{n}\sum_{j=1}^{n} r_{ij} X_{ij} - \sum_{i=1}^{n} r_i X_i + \Delta X - \sum_{i=1}^{n}\sum_{j=1}^{n} r_{ij} X_{ij}$$

Where,

- ΔX actual change in country's exports,
- r percentage increase in total world (excluding Pakistan's) exports from period 1 to period 2,
- r_i percentage increase in world (excluding Pakistan's) exports of commodity i from period 1 to period 2,
- r_{ij} percentage increase in world (excluding Pakistan's) exports of commodity i to region j from period 1 to period 2,
- X_i Pakistan's exports of commodity i to the rest of the world in period 1,
- X_{ij} Pakistan's exports of commodity i to region j in period 1.

In the equation, the expression ($\sum^{n}_{i=1} rX_i$) refers to overall growth in the world exports and this is termed as the 'World Demand Effect (WDE)'. In other words, this term estimates the level of change in the exports of the concerned country which has merely maintained its share in the world market. Expression ($\sum^{n}_{i=1} r_i X_i - \sum^{n}_{i=1} rX_i$) captures the effect of the differential export growth of the products in the export of the focus country. This effect is termed as the 'Commodity Composition Effect (CCE)'. A positive value for this term indicate that focus country's exports during the specific period were concentrated on commodities for which the growth rates of the world exports (r_i) were higher than the world average for all commodities (r). A negative value indicates just the opposite.

Expression ($\sum^{n}_{i=1}\sum^{n}_{j=1} r_{ij}X_{ij} - \sum^{n}_{i=1} r_i X_i$) reflects the 'Market Distribution

Effect (MDE)', which can be interpreted in the same manner as the CCE: a positive value indicates that focus country's exports during the specific period were directed to the markets (i.e. regions), which were growing faster than the world average, while a negative value indicate the vice versa. Expression ($\Delta X - \sum^{n}_{i=1} \sum^{n}_{i=1} r_{ij} X_{ij}$) is a residual, which reflects the difference between the actual export growth of focus country (ΔX) and the growth that would have occurred if the country maintained its export share of each commodity to each market ($\sum_i \sum_j r_{ij} X_{ij}$). A positive residual reflects the general improvement in the competitiveness of the exporting country due to the various price and non-price factors. Hence, it is referred to as 'Residual Competitiveness Effect (RCE)'.

Furthermore, the CMS model suffers from certain limitations. It cannot establish any cause and effect relationship on its own. It cannot decompose the competitiveness effect into price and non-price components. Thus, the model helps us in analyzing the pattern and structure of a country's exports as compared to world pattern and structure of trade. It throws light on the adaptability of a country's production structure according to the changed world markets.

RESULTS AND DISCUSSION

The decomposition of total Pakistani export growth during 2011-2016 is presented in table 2. It is obvious that the negative growth of our exports is because of the negative world demand and competitiveness effect. The products which we are exporting are very much sensitive to the global economic crisis. Furthermore, a very high negative competitiveness effect implies that we are losing ground with respect to commodities and destinations in the global markets. On the other hand, positive market demand effect and commodity composition effect implies that Pakistan could export to some of those markets and products where export growth were higher than the world averages. However, the values of these positive effects are relatively small, which could not counter the high negative impact of world demand and competitiveness effects.

Table 2. Decomposition of Export Growth 2011-2016

	Value in US$ (000)
Actual change in Pakistan's exports	-4,784,874
World Demand Effect (WDE)	-3,654,192
Commodity Composition Effect (CCE)	1,973,697
Market Distribution Effect (MDE)	536,795
Revealed Competitiveness Effect (RCE)	-3,641,174

A more disaggregated CMS analysis is presented in table 3 and 4. Table 3. presents CMS estimates for top 10 export industries. The five (5) export sectors; apparel (SITC 84), vegetables & fruits (SITC 05), scientific instruments (SITC 87), fish (SITC 03) and sugar (SITC 06) have positive actual change, while remaining five (5) products, textiles (SITC 65), cereals (SITC 04), miscellaneous manufactures (SITC 89), leather products (SITC 61) and non-metallic manufactures (SITC 6) have negative actual change. Here the competitiveness growth effect is strong in the textiles, apparel, vegetable and fruits, scientific instruments, fish and sugar products. However cereal products, miscellaneous manufactures, leather products and non-metallic mineral manufacturing have negative competitiveness effect.

For textiles and apparel, both World Demand Effect and Market Demand Effect is negative. It is evident that the destination effect on export growth is also highly negative in textiles, apparel, vegetables & fruits, scientific instruments, fish and sugar. Among all, textiles was highly affected by market demand effect, which led to an overall negative growth. Cereals, which is dominated by one product 'rice', has the highest negative effect of competitiveness but has positive destination effect. Vegetables and fruits is only affected by destination effects but has actual positive change. Miscellaneous manufactures are the only sector which is affected by negative competitiveness effect. World demand and market demand effects have shown positive effect for this sector.

Table 3. Constant Market Share Analysis (2011-2016) Product Wise

Code	Product Description	Actual change	WDE	MDE	RCE
		VALUE IN US$ MILLION			
65	Textile yarn/fabric/art.	(1,401)	(413)	(2,169)	1,182
84	Apparel/clothing/access	554	(38)	(240)	831
04	Cereals/cereal preparation	(1,282)	(422)	352	(1,212)
05	Vegetables and fruit	33	83	(551)	502
89	Misc. manufactures	(482)	40	154	(676)
61	Leather manufactures	(121)	(53)	158	(226)
87	Scientific/etc instrument	53	(3)	(48)	104
03	Fish/shellfish/etc.	25	28	(21)	18
66	Non-metal mineral manuf.	(179)	(42)	82	(219)
06	Sugar/sugar prep/honey	188	(12)	(6)	205
	Others	(2,172)	(848)	847	(2,171)

Table 4. presents CMS estimates for major export destinations of Pakistan during 2011-16. There were only 2 regions Central Asian Republics (CARs) and Europe, where actual change was positive. Interestingly, only these two regions

have shown positive effect for competitiveness. All the regions have shown negative demand effect and positive commodity composition effects, except CARs where a marginal negative commodity composition effect was noted.

Results in the table 4. show almost same results as in table 2, where world demand and competitiveness effects were the major contributor of negative export growth. Competitiveness effect in South Asia, Middle-East (MENA) and East Asia Pacific was very high and showed a major contribution in negative export growth in these regions.

Table 4. CMS Analysis Region-Wise (2011-2016) Region wise

	Values in US$ million			
	Actual change	**WDE**	**CCE**	**RCE**
Africa	(373)	(238)	296	(431)
CARs	26	(2)	(4)	32
EAP	(731)	(532)	597	(796)
Euro	611	(910)	816	704
MENA	(1,513)	(464)	455	(1,504)
North America	(437)	(613)	616	(440)
South Asia	(1,614)	(615)	759	(1,758)
South America	(121)	(53)	92	(159)
Others	(632)	(229)	446	(850)

The policy lesson that we should learn from the research findings is that incentivization should focus upon improving competitiveness of exporting firms. The primary focus of export policy should be on enhancing the global competitiveness of our leading exporting firms. Ansari and Siddiqui (2017), therefore suggested the government that the Export policy should focus on firms not on sectors.

CONCLUSION

Constant Market Share (CMS) analysis show that the 'Competitiveness Effect' and 'World Demand Effect' is highly negative in the overall export growth pattern during 2011-2016 in Pakistan. While 'Market Demand Effec' and 'Commodity Composition Effect' account positively for the growth of Pakistan exports, Competitiveness effect is particularly highly negative in the cereals preparations, manufactured items and leather products sector. CMS analysis further shows that we are losing ground to other countries because of the declining competitiveness of our products in the global markets. The weak world demand of our product is equally contributing to negative growth in exports in Pakistan.

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