



Comparative Advantage of India in Buffalo Meat exports Vis-à-vis Major Exporting countries

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Abstract

Indian has occupied Supreme position in the global Buffalo Meat market over the years. Today India is a major supplier of Buffalo Meat to the international market. However, its competitiveness has not yet been properly documented. This paper analysis the competitiveness of India's buffalo exports by using the method Revealed Symmetric Comparative Advantage(RSCA). The results showed that the country faces fierce competition from other major players in the field, both existing and new entrants in the fray. Though Buffalo meat takes lion's share in total meat exports from India, its competitiveness with other major exporting countries is eroding over the years. Item wise analysis shows that India has comparative advantage only in the exports of Meat of Bovine Animals, Frozen, Boneless(020230), Meat of Bovine Animals, Frozen (Excl. of 0202.10), Bone-In(020220), Carcasses/Half-Carcasses of Bovine Animals, Frozen(020210). In the remaining items, it is not able to compete with the other players. India may have to face the competition from USA in case of Meat of Bovine Animals, Frozen, Boneless(020230) where India has competitive advantage over all other exporting countries. India has comparative advantage only in case of frozen items. This is major concern for India. India has to analyse the reasons for less comparative advantage in case of fresh, Chilled items and other items and has to take appropriate measures to take advantage of largest growing Buffalo meat sector.

Keywords: Comparative advantage, RSCA, buffalo meat, competitiveness, exports.

Introduction

India is 5th largest producer of Meat with a production of 6.3 million tonnes which accounts for 3% of world's total meat production of 220 million tonnes. Buffalo meat takes lion's share accounting for 31% of total meat production. The share of Bovine Meat is about 62% against small ruminants of 15%. The share of red meat is 77%¹.

The country has exported 1106.96 thousand MT of buffalo meat products to the world for the worth of Rs. 17,400.59 crores during the year 2012-13². Major Export Destinations are Vietnam Social Republic, Malaysia, Thailand, Egypt Arab Republic, Saudi Arabia and Jordan.

Indian Buffalo Meat exports consists of both fresh and frozen items. Under fresh meat category, it exports Carcasses Of Bovine Animals (Fresh), Meat Of Bovine Animals With Bone (Fresh), Boneless Meat Of Bovine Animals (Fresh). The items coming under frozen category are Carcasses Of Bovine Animals (Frozen), Meat Of Bovine Animals With Bone (Frozen) and Boneless Meat Of Bovine Animals (Frozen)³ Though India occupies 5th position in terms of total meat production it has not gained enough share in world's Buffalo meat market. With this backdrop this study has been undertaken to analyse the competitiveness of India⁴ in Buffalo Meat exports by taking into account individual items under total buffalo meat. India's competitiveness is compared with other major exporting

countries⁵ of Buffalo Meat with respect to each individual item in the total buffalo meat.

Material and Methods

All the major exporting countries were selected for the study. These countries are Argentina, Netherlands, USA, Canada, New Zealand, Ireland, India, Australia etc. The data on exports of Buffalo meat were collected from APEDA website. Buffalo Meat exports were analysed HS code wise. According to HS classification about ten items are included in total Buffalo Meat. Particulars of these items are given in table-1.

'Revealed comparative advantage' (RCA)⁶ is a measure of international trade specialization. It identifies the comparative advantage or disadvantage a country has for a commodity with respect to another country or group of countries. It provides ranking of commodities by degree of comparative advantage⁷ and identifies a binary type of demarcation of commodities/regions based on comparative advantage.

The original index of RCA was first formulated by Balassa⁶ and can be written as per the equation (1):

$$B = \frac{(X_{ij} / X_{ik})}{(X_{nj} / X_{nk})} \quad (1)$$

Where: X_{ij} = Exports of country 'i' of commodity 'j', X_{ik} = Exports of country 'i' of a set of commodities 'k', X_{nj} =

Exports of a set of countries 'n' of a commodity 'j', and X_{nk} = Exports of a set of countries 'n' of a set of commodities 'k',

In the present study, country 'i' refers to India, commodity 'j' refers to Buffalo meat (HS wise items), set of commodities 'k' refers to total Buffalo meat exports and set of countries 'n' refers to World. When RCA assumes the value greater than unity for a given country / region in a given commodity, the country is said to have a revealed comparative advantage in that commodity.

RCA index is made symmetric, following the methodology suggested by Dalum et al (1998)⁸ and the new index is called 'Revealed Symmetric Comparative Advantage'(RSCA). Mathematically, it can be expressed by Equation (2):

$$RSCA = (RCA-1) / (RCA+1) \quad (2)$$

This measure ranges between -1 and +1 and is free from the problem of skewness. A commodity is said to have comparative advantage in its exports if the corresponding RSCA value is positive and vice versa.

Results and Discussion

Commodity wise RSCA estimates: Competitiveness of Buffalo meat is analysed HS code wise and are presented in figures from 1 to 10

Meat of Bovine Animals, Fresh/Chilled, Boneless (020130): India does not have comparative advantage in this item with RSCA values always below 0 i.e less than -0.8 (figure1). Countries having comparative advantage in this item are Australia, Netherlands (increasing over the years), USA (though decreasing from 0.4 to 0.2 still positive) Ireland (increasing), Argentina (increasing over the years though showed slip in 2009), Canada. Canada is exhibiting highest comparative advantage over other countries with RSCA values of 0.3 throughout the period.

Meat of Bovine Animals, Frozen, Boneless (020230): India has overtook all other countries to become advantageous country in this item. It has been exhibiting RSCA of greater than 0.4 in all the years (figure-2). At present India is facing tough competition from New Zealand whose RSCA values are closer to India i.e 0.4. Australia is giving slight competition to India with RSCA of 0.2. While Argentina losing its competitiveness whose RSCA dropped from 0.2 to -0.1 USA is improving its position as is evident by increasing values of RSCA from -0.7 to -0.1. It has serious implications for India in future.

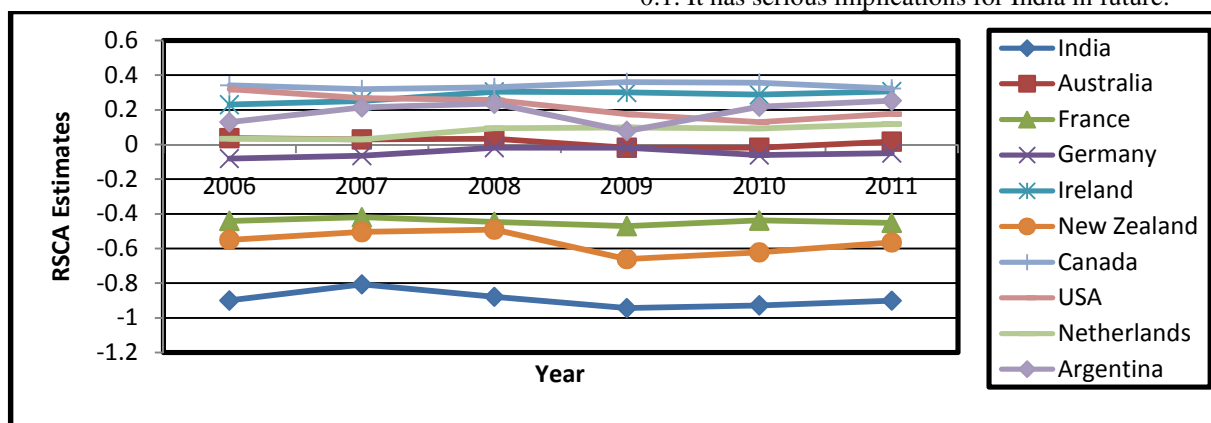


Figure-1

Meat of Bovine Animals, Fresh/Chilled, Boneless (020130)

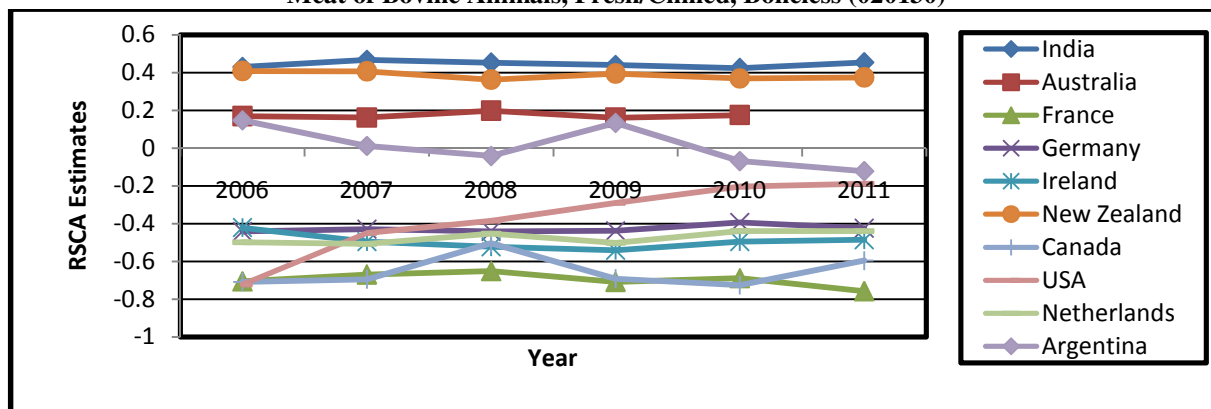


Figure-2

Meat of Bovine Animals, Frozen, Boneless (020230)

Meat of Bovine Animals, Fresh/Chilled (Excl. of 0201.10), Bone-In (020120): France is having highest advantage (0.6) followed by Germany (0.5) and Netherlands(0.3). India does not have any advantage in this item figure-3.

Carcasses/Half-Carcasses of Bovine Animals, Fresh/Chilled (020110): In this item also France is the major player (0.5) followed by Netherlands(0.3) (figure-4).It is interesting to note that Canada is improving its position whose RSCA values have increased from -0.6 to -0.2.

Edible offal of Bovine Animals (Excl. Tongues and Livers), Frozen (020629): No country is having comparative advantage

in this item as RSCA values of all countries are less than 0 figure-3.

Meat of Bovine Animals, Frozen (Excl. of 0202.10), Bone-In (020220): India which was having highest RSCA of 0.7 has lost its advantage till 2008 but again could recover to gain RSCA of 0.1. USA which was kept at disadvantaged position in the initial years (figure-6) with RSCA of -0.4 has become world player(RSCA of 0.5) in this item overtaking other countries. New Zealand and Australia are the other countries having advantage in this item.

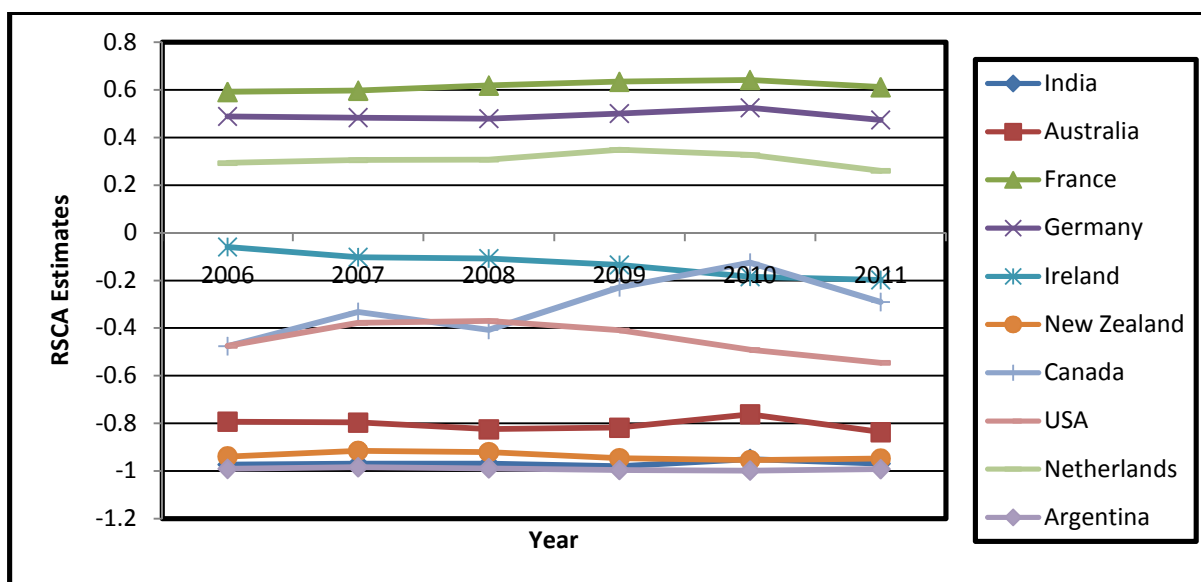


Figure-3
Meat of Bovine Animals, Fresh/Chilled (Excl. of 0201.10), Bone-In (020120)

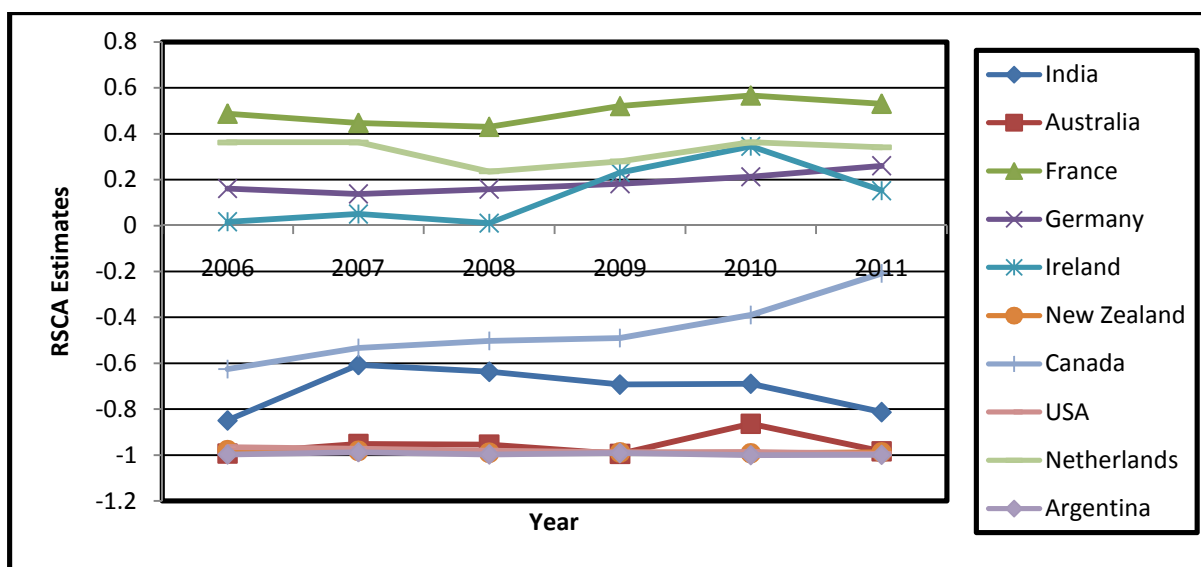


Figure-4
Carcasses/Half-Carcasses of Bovine Animals, Fresh/Chilled (020110)

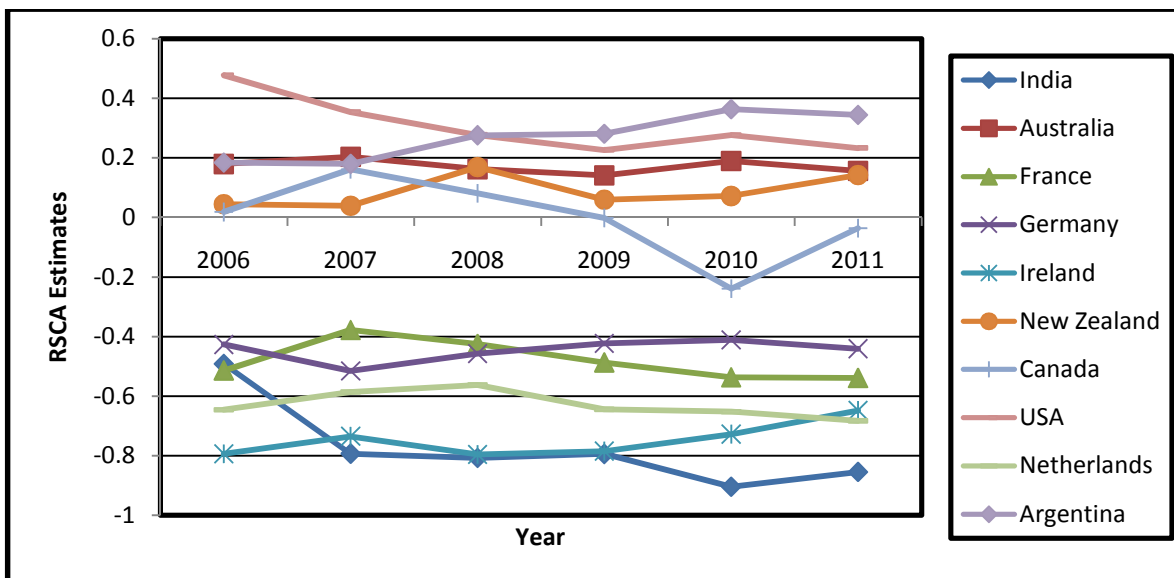


Figure-5
Edible offal of Bovine Animals (Excl. Tongues and Livers), Frozen (020629)

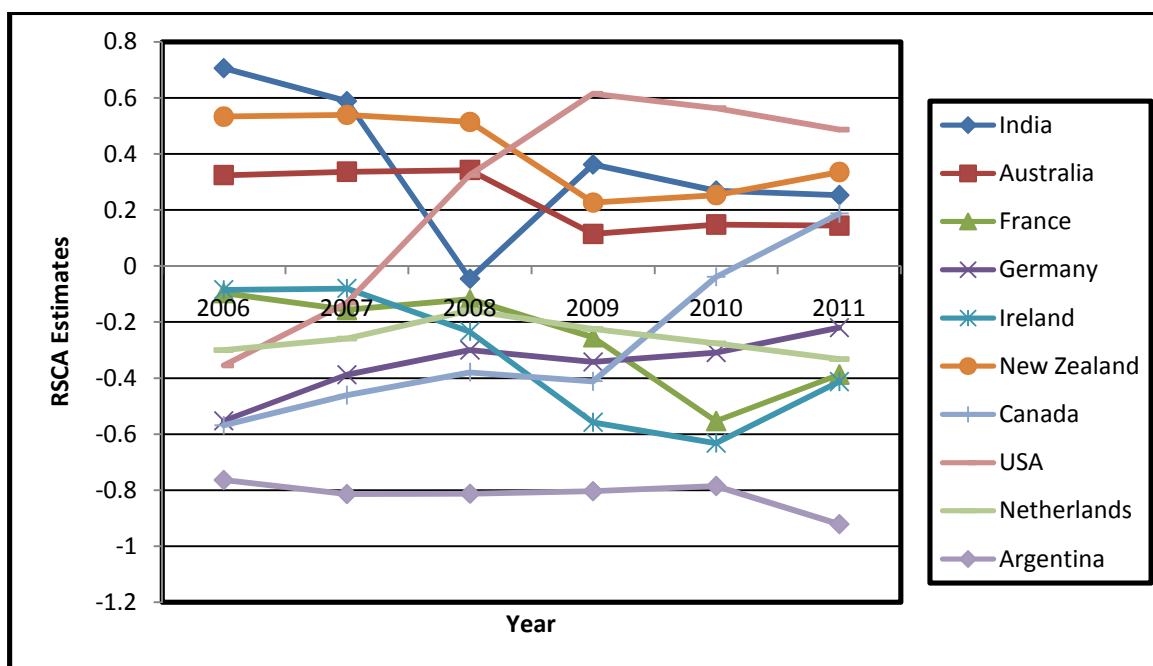


Figure-6
Meat of Bovine Animals, Frozen (Excl. of 0202.10), Bone-In (020220)

Edible offal of Bovine Animals, Fresh/Chilled (020610): Highest RSCA values are exhibited by Netherlands (0.4) followed by USA, Germany and Ireland (figure-7). While Australia is losing its competitiveness (RSCA decreasing from 0.2 to negative), Canada is improving its position (-0.4 to 1). Argentina and New Zealand are improving their positions though the values are still negative. India has no advantage.

Livers of Bovine Animals, Frozen (020622): Opposite trends are exhibited by USA and Canada where Canada has lost its advantage over the years (0.8 to 0.3) and USA has become major player (figure-8) in this item with increased RSCA from 0.3 to 0.6. Argentina has been losing slightly its advantage (0.6 to 0.4). Other countries showing competitiveness are New Zealand and Australia.

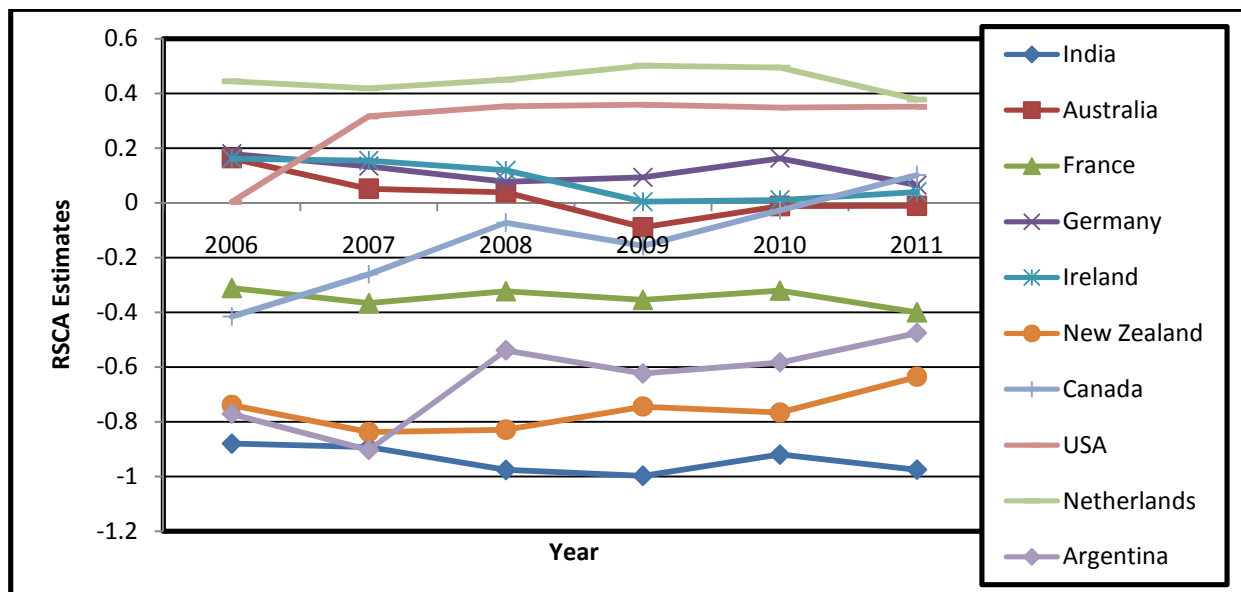


Figure-7
Edible offal of Bovine Animals, Fresh/Chilled (020610)

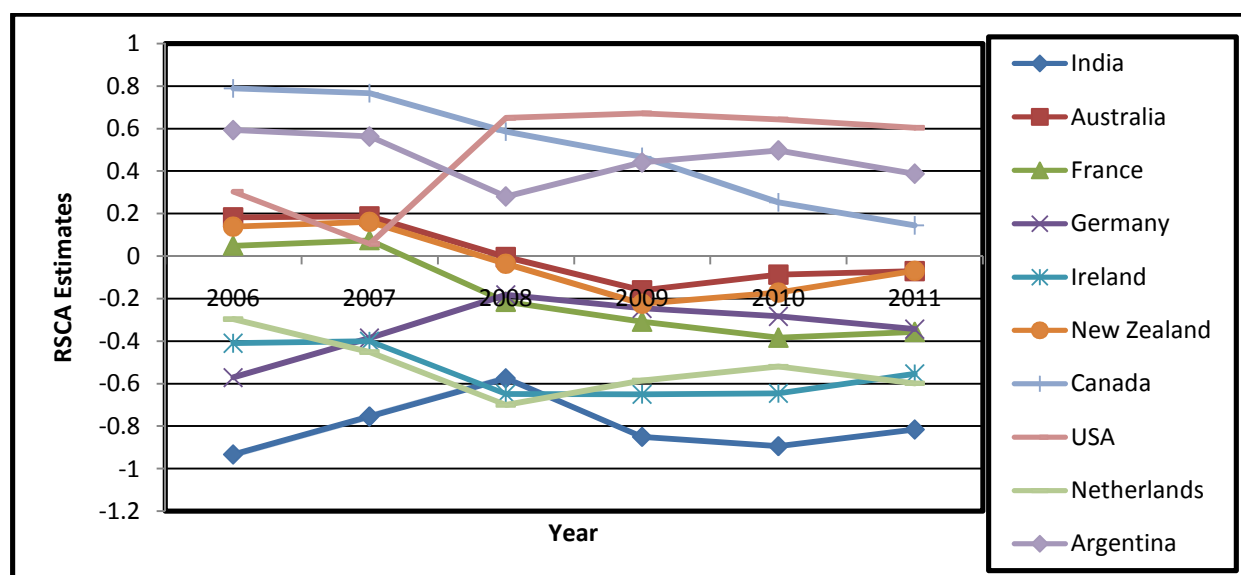


Figure-8
Livers of Bovine Animals, Frozen (020622)

Tongues of Bovine Animals, Frozen (020621): USA is having highest comparative advantage than others. New Zealand which was having highest comparative advantage has lost its position to USA with decreasing values of RSCA from 0.5 to 0.4 to become second largest player in this item. While Australia is kept at constant place, Argentina and Canada are improving their position whose values have improved from negative to positive side (figure-9). This increase is from -0.2 to 0.3 in case of Argentina and -0.6 to 0 in case of Canada. Hence these two players may give competition to USA in future

Carcasses/Half-Carcasses of Bovine Animals, Frozen (020210): Except Argentina all other countries are kept at disadvantageous position with regard to this item (figure-10). India which was having highest comparative advantage in the initial years has lost its advantage as is evident from the values of RSCA dropping from 0.9 to negative. This has serious implications for India. Reasons have to be analysed and take necessary correction measures to gain its position. France may pose competition as it is improving its RSCA from negative to 0.2

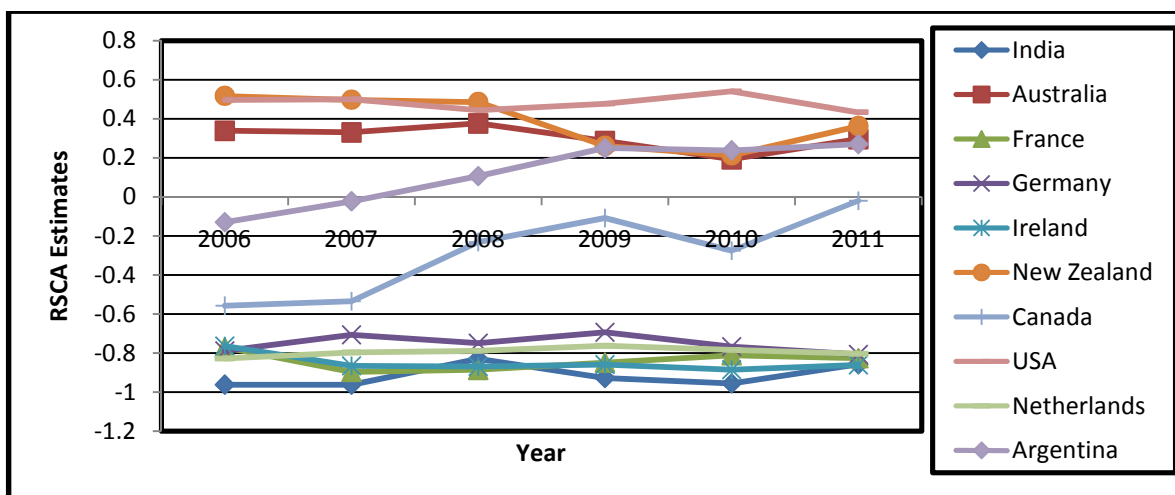


Figure-9
Tongues of Bovine Animals, Frozen (020621)

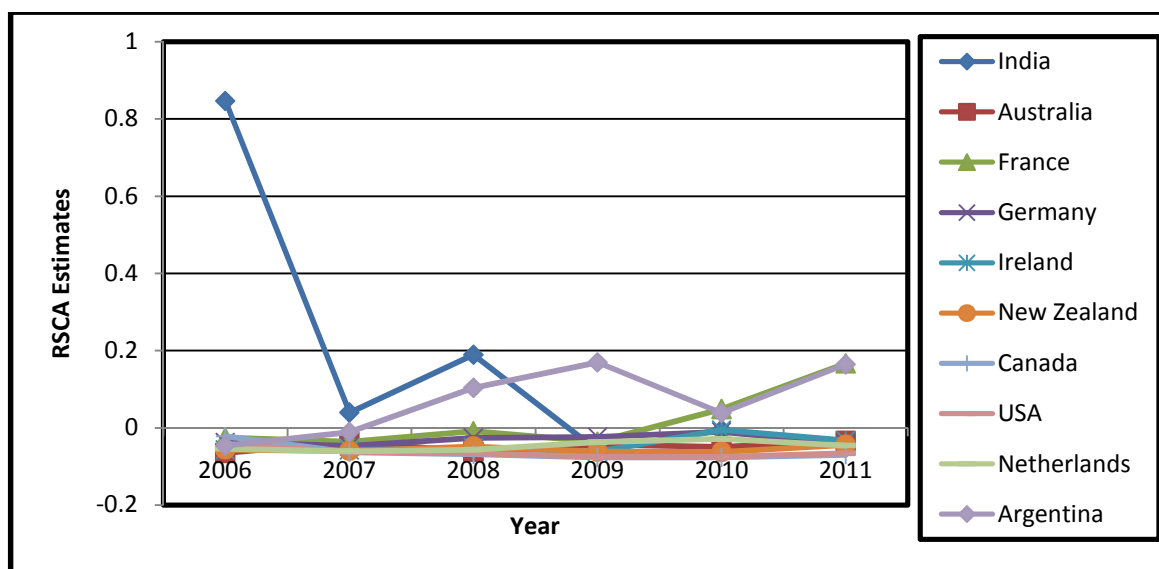


Figure-10
Carcasses/Half-Carcasses of Bovine Animals, Frozen (020210)

Table-1
Classification of Buffalo Meat according to HS Codes

020130 Meat of Bovine Animals, Fresh/Chilled, Boneless
020230 Meat of Bovine Animals, Frozen, Boneless
020120 Meat of Bovine Animals, Fresh/Chilled (Excl. of 0201.10), Bone-In
020110 Carcasses/Half-Carcasses of Bovine Animals, Fresh/Chilled
020629 Edible offal of Bovine Animals (Excl. Tongues and Livers), Frozen
020220 Meat of Bovine Animals, Frozen (Excl. of 0202.10), Bone-In
020610 Edible offal of Bovine Animals, Fresh/Chilled
020622 Livers of Bovine Animals, Frozen
020621 Tongues of Bovine Animals, Frozen
020210 Carcasses/Half-Carcasses of Bovine Animals, Frozen

Conclusions

i. India has been the largest exporter of Buffalo meat in the world, but it is not competitive with other countries. ii. Competitive analysis where RSCA values have been estimated for each item and country showed that India has comparative advantage only in three items i.e Meat of Bovine Animals, Frozen, Boneless(020230), Meat of Bovine Animals, Frozen (Excl. of 0202.10), Bone-In(020220) and Carcasses/Half-Carcasses of Bovine Animals, Frozen(020210). Again in these items it has absolute advantage only with regard to Meat of Bovine Animals, Frozen, Boneless(020230), where in it has overtook all other countries. However there is chance of India facing competition from USA in future which is improving its position with regard to its competitiveness in this item as evident from increased values of RSCA(increased from -0.3 to 0.9). India has to be prepared for this situation and take necessary measures to maintain but not to loose its position to others. iii. India which was having highest RSCA of 0.7 has lost its advantage till 2008 but again could recover to gain RSCA of 0.1 in case of Meat of Bovine Animals, Frozen (Excl. of 0202.10), Bone-In(020220). iv. With regard to Carcasses/Half-Carcasses of Bovine Animals, Frozen(020210) India may have to face competition from France

Over all analysis showed that India has comparative advantage only in case of frozen items. This has implications for India. It has to take appropriate measures to increase exports of other items also. It may give call for infrastructure strengthening and

technology upgradation to boost production of fresh/ chilled items.

References

1. www.mopi.gov.in (2013)
2. www.agriexchange.apeda.gov.in (2013)
3. www.apeda.gov.in (2013)
4. Hyma Jyothi S., and Raju, V.T., Trends, Competitiveness and Comparative Advantage of Tea and Coffee Exports from India, *Agricultural Situation in India*, 165-172(2005)
5. Shino P., and Mathur V.C., Comparative Advantage of India in Agricultural Exports vis-a-vis Asia: A Post-reforms Analysis, *Agricultural Economics Research Review*, 21, 60-66(2008)
6. Balassa, Bela., Trade Liberalization and 'revealed' comparative advantage, *The Manchester School of Economic and Social Studies.*, 32, 99-123 (1965)
7. Gulati, A., Sharma, A., Sharma, K., Das, S. and Chhabra, V., Export Competitiveness of selected agricultural commodities, *National Council of Applied Economic Research.*, New Delhi (1994)
8. Dalum, B., K. Laursen, G. Villumsen., Structural change in OECD export specialization patterns: de-specialization and stickiness, *International Review of Applied Economics*, 12, 447-467 (1998)