

# **Report on the unit values of India's imports of equipment for gymnastics, sports, outdoor games and**

**ITCHS code 9506**

**Description:** Articles and equipment for general physical exercise, gymnastics, athletics, other sports (including table- tennis) or outdoor games, not specified or included elsewhere in this Chapter; swimming pools and paddling pools.

DGCI&S  
Kolkata



# Table of Contents

Table of Figures.....	iii
Index of Tables.....	vi
1 Introduction.....	1
1.1 Classification.....	1
a Snow-skis and other snow-ski equipment (95061100 – 95061900).....	1
b Water-skis, surf-boards, sailboards and other water-sport equipment (95062100 – 95062900).....	1
c Golf clubs and other golf equipment (95063100 – 95063900).....	2
d Articles and equipment for table-tennis (95064000).....	2
e Tennis, badminton or similar rackets, whether or not strung (95065100 – 95065990).....	2
f Balls, other than golf balls and table-tennis balls (95066100 – 95066990).....	3
g Ice skates, roller skates and skating boots (95067000).....	3
h Physical exercise, gymnasium and athletics equipment (95069110 – 95069190).....	4
i Equipment nes for sports, swimming and paddling pools (95069910 – 95069990).....	4
1.2 Outline of the report.....	5
2 Comparison of unit rates across countries.....	7
a Snow-skis and other snow-ski equipment (950611 – 950619).....	8
b Water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629).....	10
c Golf clubs and other golf equipment (950631 – 950639).....	11
d Articles and equipment for table-tennis (950640).....	13
e Tennis, badminton or similar rackets, whether or not strung (950651 – 950659).....	14
f Balls, other than golf balls and table-tennis balls (950661 – 950669).....	15
g Ice skates, roller skates and skating boots (950670).....	17
h Physical exercise, gymnasium and athletics equipment (950691).....	18
i Equipment nes for sports, swimming and paddling pools (950699).....	18
3 Analysis of Indian imports across partner countries.....	21
a Snow-skis and other snow-ski equipment (950611 – 950619).....	21
b Water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629).....	23
c Golf clubs and other golf equipment (950631 – 950639).....	24
d Articles and equipment for table-tennis (950640).....	26
e Tennis, badminton or similar rackets, whether or not strung (950651 – 950659).....	26
f Balls, other than golf balls and table-tennis balls (950661 – 950669).....	28
g Ice skates, roller skates and skating boots (950670).....	30
h Physical exercise, gymnasium and athletics equipment (950691).....	31
i Equipment nes for sports, swimming and paddling pools (950699).....	31

4 Analysis of Indian imports across partner countries and ports.....	33
a Snow-skis and other snow-ski equipment (95061100 – 95061900).....	33
b Water-skis, surf-boards, sailboards and other water-sport equipment (95062100 – 95062900)...	34
c Golf clubs and other golf equipment (95063100 – 95063900).....	34
d Articles and equipment for table-tennis (95064000).....	35
e Tennis, badminton or similar rackets, whether or not strung (95065100 – 95065990).....	35
f Balls, other than golf balls and table-tennis balls (95066100 – 95066990).....	35
g Ice skates, roller skates and skating boots (95067000).....	36
h Physical exercise, gymnasium and athletics equipment (95069110 – 95069190).....	37
i Equipment nes for sports, swimming and paddling pools (95069910 – 95069990).....	37
5 Significance of imports from China.....	63
5.1 Trade indicators.....	63
5.2 Market share of Chinese imports in India.....	67
5.3 Average unit price of Chinese products.....	71
a Snow-skis and other snow-ski equipment (950611 – 950619).....	71
b Water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629).....	72
c Golf clubs and other golf equipment (950631 – 950639).....	73
d Articles and equipment for table-tennis (950640).....	74
e Tennis, badminton or similar rackets, whether or not strung (950651 – 950659).....	75
f Balls, other than golf balls and table-tennis balls (950661 – 950669).....	76
g Ice skates, roller skates and skating boots (950670).....	77
h Physical exercise, gymnasium and athletics equipment (950691).....	78
i Equipment nes for sports, swimming and paddling pools (950699).....	79
6 Findings.....	81
7 Recommendations.....	83
Appendix A Codes.....	84
A.I Country codes.....	84
A.II Port codes.....	84
Appendix B Trade indices.....	87
B.I Revealed Comparative Advantage (RCA) Index.....	87
B.II Revealed Comparative Import Intensity (RCII) Index.....	87
B.III Export Trade Intensity Index (TII).....	88
B.IV Competitive Index (CI).....	88



## Table of Figures

Figure 1.1: Country-wise share in imports of equipment for gymnastics, sports, outdoor games nes (ITCHS 9506) in 2018.....	5
Figure 1.2: Country-wise share in exports of equipment for gymnastics, sports, outdoor games nes (ITCHS 9506) in 2018.....	6
Figure 2.1: Unit values of ITCHS 950611 (Skis).....	8
Figure 2.2: Unit values of ITCHS 950612 (Ski-fastenings or ski-bindings).....	9
Figure 2.3: Unit values of ITCHS 950619 (Ski - Other).....	9
Figure 2.4: Unit values of ITCHS 950621 (Sailboards).....	10
Figure 2.5: Unit values of ITCHS 950629 (Water-sports: Other).....	11
Figure 2.6: Unit values of ITCHS 950631 (Golf Clubs: Complete).....	11
Figure 2.7: Unit values of ITCHS 950632 (Golf balls).....	12
Figure 2.8: Unit values of ITCHS 950639 (Golf - Other).....	13
Figure 2.9: Unit values of ITCHS 950640 (Table-Tennis).....	13
Figure 2.10: Unit values of ITCHS 950651 (Lawn tennis rackets).....	14
Figure 2.11: Unit values of ITCHS 950659 (Squash or racketball badminton rackets).....	15
Figure 2.12: Unit values of ITCHS 950661 (Lawn-tennis balls).....	15
Figure 2.13: Unit values of ITCHS 950662 (Inflatable balls).....	16
Figure 2.14: Unit values of ITCHS 950669 (Balls - Other).....	17
Figure 2.15: Unit values of ITCHS 950670 (Ice and roller skates).....	17
Figure 2.16: Unit values of ITCHS 950691 (Equipment for boxing and athletics).....	18
Figure 2.17: Unit values of ITCHS 950699 (Equipment nes for sports, swimming and paddling pools).....	19
Figure 3.1: Unit values of ITCHS 950611 (Skis) in Indian imports across countries.....	21
Figure 3.2: Unit values of ITCHS 950612 (Ski-fastenings or ski-bindings) in Indian imports across countries [log-scale].....	22
Figure 3.3: Unit values of ITCHS 950619 (Ski - Other) in Indian imports across countries [log-scale].....	23
Figure 3.4: Unit values of ITCHS 950621 (Sailboards) in Indian imports across countries.....	23
Figure 3.5: Unit values of ITCHS 950629 (Water-sports: Other) in Indian imports across countries [log-scale].....	24
Figure 3.6: Unit values of ITCHS 950631 (Golf Clubs: Complete) in Indian imports across countries.....	25
Figure 3.7: Unit values of ITCHS 950632 (Golf balls) in Indian imports across countries [log-scale].....	25
Figure 3.8: Unit values of ITCHS 950639 (Golf – Other) in Indian imports across countries.....	26
Figure 3.9: Unit values of ITCHS 950640 (Table-Tennis) in Indian imports across countries.....	27
Figure 3.10: Unit values of ITCHS 950651 (Lawn tennis rackets) in Indian imports across countries.....	27
Figure 3.11: Unit values of ITCHS 950659 (Squash or racketball badminton rackets) in Indian imports across countries.....	28
Figure 3.12: Unit values of ITCHS 950661 (Lawn-tennis balls) in Indian imports across countries.....	29
Figure 3.13: Unit values of ITCHS 950662 (Inflatable balls) in Indian imports across countries.....	29
Figure 3.14: Unit values of ITCHS 950669 (Balls – Other) in Indian imports across countries.....	30
Figure 3.15: Unit values of ITCHS 950670 (Ice and roller skates) in Indian imports across countries.....	30
Figure 3.16: Unit values of ITCHS 950691 (Equipment for boxing and athletics) in Indian imports across countries.....	31

Figure 3.17: Unit values of ITCHS 950699 (Equipment nes for sports, swimming and paddling pools) in Indian imports across countries.....	32
Figure 4.1: Indian import rates of ITCHS 95061100 (Skis) across countries and ports.....	37
Figure 4.2: Indian import rates of ITCHS 95061200 (Ski-fastenings or ski-bindings) across countries and ports.....	38
Figure 4.3: Indian import rates of ITCHS 95061900 (Ski - Other) across countries and ports.....	38
Figure 4.4: Indian import rates of ITCHS 95062100 (Sailboards) across countries and ports.....	39
Figure 4.5: Indian import rates of ITCHS 95062900 (Water-sports: Other) across countries and ports.....	40
Figure 4.6: Indian import rates of ITCHS 95063100 (Golf Clubs: Complete) across countries and ports.....	41
Figure 4.7: Indian import rates of ITCHS 95063200 (Golf balls) across countries and ports.....	41
Figure 4.8: Indian import rates of ITCHS 95063900 (Golf - Other) across countries and ports.....	42
Figure 4.9: Indian import rates of ITCHS 95064000 (Table-Tennis) across countries and ports.....	43
Figure 4.10: Indian import rates of ITCHS 95065100 (Lawn tennis rackets) across countries and ports.....	44
Figure 4.11: Indian import rates of ITCHS 95065910 (Squash or racketball badminton rackets) across countries and ports.....	45
Figure 4.12: Indian import rates of ITCHS 95065990 (Similar rackets nes) across countries and ports.....	46
Figure 4.13: Indian import rates of ITCHS 95066100 (Lawn-tennis balls) across countries and ports.....	47
Figure 4.14: Indian import rates of ITCHS 95066210 (Footballs) across countries and ports.....	48
Figure 4.15: Indian import rates of ITCHS 95066220 (Volleyballs) across countries and ports.....	49
Figure 4.16: Indian import rates of ITCHS 95066230 (Basketballs) across countries and ports.....	50
Figure 4.17: Indian import rates of ITCHS 95066290 (Inflatable balls nes) across countries and ports.....	51
Figure 4.18: Indian import rates of ITCHS 95066910 (Hockey balls) across countries and ports....	52
Figure 4.19: Indian import rates of ITCHS 95066920 (Cricket balls) across countries and ports....	52
Figure 4.20: Indian import rates of ITCHS 95066930 (Golf balls) across countries and ports.....	53
Figure 4.21: Indian import rates of ITCHS 95066940 (Rugby balls) across countries and ports.....	53
Figure 4.22: Indian import rates of ITCHS 95066990 (Balls nes) across countries and ports.....	54
Figure 4.23: Indian import rates of ITCHS 95067000 (Ice and roller skates) across countries and ports.....	55
Figure 4.24: Indian import rates of ITCHS 95069110 (Boxing equipment) across countries and ports.....	56
Figure 4.25: Indian import rates of ITCHS 95069910 (Badminton shuttlecocks) across countries and ports.....	57
Figure 4.26: Indian import rates of ITCHS 95069920 (Leg pads and bats for cricket) across countries and ports.....	58
Figure 4.27: Indian import rates of ITCHS 95069930 (Shoulder pads for football) across countries and ports.....	58
Figure 4.28: Indian import rates of ITCHS 95069940 (Hockey sticks and blades) across countries and ports.....	59
Figure 4.29: Indian import rates of ITCHS 95069950 (Polo sticks) across countries and ports.....	59
Figure 4.30: Indian import rates of ITCHS 95069960 (Sports net) across countries and ports.....	60
Figure 4.31: Indian import rates of ITCHS 95069970 (Tennis and badminton racket pressures) across countries and ports.....	61
Figure 4.32: Indian import rates of ITCHS 95069980 (Shin-guards and elbow or shoulders pads excluding those for football; waist, thigh, and hip protective equipment) across countries and ports. .	62

Figure 5.1: Comparison of unit values of snow-skis and other snow-ski equipment (950611 – 950619).....	72
Figure 5.2: Comparison of unit values of water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629).....	73
Figure 5.3: Comparison of unit values of golf clubs and other golf equipment (950631 – 950639).....	74
Figure 5.4: Comparison of unit values of articles and equipment for table-tennis (950640).....	75
Figure 5.5: Comparison of unit values of tennis, badminton or similar rackets, whether or not strung (950651 – 950659).....	76
Figure 5.6: Comparison of unit values of balls, other than golf balls and table-tennis balls (950661 – 950669).....	77
Figure 5.7: Comparison of unit values of ice skates, roller skates and skating boots (950670).....	78
Figure 5.8: Comparison of unit values of physical exercise, gymnasium and athletics equipment (950691).....	78
Figure 5.9: Comparison of unit values of equipment nes for sports, swimming and paddling pools (950699).....	79

## Index of Tables

Table 5.1: Revealed Comparative Advantage.....	63
Table 5.2: Revealed Comparative Import Intensity Index.....	64
Table 5.3: Export Trade Intensity Index.....	65
Table 5.4: Competitive Index.....	66
Table 5.5: China's share of Indian imports in ITCHS 9506 subcategories w.r.t. other nations in 2017 .....	67
Table 5.6: China's share of Indian imports in ITCHS 9506 subcategories w.r.t. other nations in 2018 .....	68
Table 5.7: China's share of Indian imports in ITCHS 9506 subcategories w.r.t. other nations in 2019 .....	70

# Chapter 1

## Introduction

The category of 9506 according to the ITCHS5 classification (2017) consists of articles and equipment for general physical exercise, gymnastics, athletics, other sports (including table-tennis) or outdoor games (not specified or included elsewhere in this chapter), swimming pools and paddling pools.

### 1.1 Classification

The category of equipment for gymnastics, sports, outdoor games is divided into 17 6-digit categories ranging from 950611 to 950699 and is elaborated upon in the following subsections.

#### **a Snow-skis and other snow-ski equipment (95061100 – 95061900)**

Skiing in India takes place mostly in the northern states of India along the Himalayan range. This winter sport is not very prevalent in India due to lack of specific infrastructures, such as cable cars to take one up the mountain, and high cost of travel and equipment. The HS classification for snow-skis and its equipment is under codes **950611**, **950612** and **950619**. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95061100	Skis	Numbers
95061200	Ski-fastenings or ski-bindings	Kg
95061900	Snow-ski equipment except skis/bindings	Kg

#### **b Water-skis, surf-boards, sailboards and other water-sport equipment (95062100 – 95062900)**

Surfing in India is prevalent along the coast-lines of India, which is over 7500 km including the island groups. The first surf camp in India took place in 2011 at Chennai, Tamil Nadu, organized by Bay of Life in association with The Surfing Federation of India. This marked the beginning of surfing as a popular and organized sport in the country. Sailboards and water-skiing, on the other hand, are recreational water sports popular at flat water locations. In India, it is likely to be found more in tourist destinations for relatively affluent sections and is more common among the youth. The HS classification for these water sports and its equipment are under codes **950621** and **950629**. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95062100	Sailboards	Numbers
95062900	Water-skis, surf-boards, other water-sport equipment	Numbers

**c Golf clubs and other golf equipment (95063100 – 95063900)**

Golf in India is a growing sport. It is popular among the wealthier classes due to the expenses involved in playing and has not caught up with the other classes yet. Thus, unlike other popular sports, golf does not have a high demand in India. The HS classification for these water sports and its equipment are under codes **950631**, **950632** and **950639**. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95063100	Golf clubs (complete)	Numbers
95063200	Golf balls	Numbers
95063900	Golf equipment except balls and clubs	Kg

**d Articles and equipment for table-tennis (95064000)**

Table tennis is a popular indoor recreation sport in India, which has caught on in states like West Bengal, Tamil Nadu, Maharashtra, and Gujarat. The Table Tennis Federation of India is the official sports body. This is a relatively inexpensive sport for non-professionals and is played by all classes of the society, thus having considerably high demand. The HS classification for table-tennis is under code **950640**. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95064000	Articles and equipment for table-tennis	Numbers

**e Tennis, badminton or similar rackets, whether or not strung (95065100 – 95065990)**

Counted among the most popular sports in India, tennis enjoys a considerable following in India. However, it has remained limited to urban areas. Badminton is also popular in India and is the second most played sport after cricket. It is also a relatively inexpensive sport for non-professionals and, thus, has high demand from all sections of the society. The HS classification for this group is under the codes **950651** and **950659**. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95065100	Lawn-tennis rackets (whether or not strung)	Numbers
95065910	Squash or racketball badminton rackets (whether or not strung)	Numbers
95065990	Similar rackets nes (whether or not strung)	Numbers

#### **f Balls, other than golf balls and table-tennis balls (95066100 – 95066990)**

This group consists of tennis balls, inflatable balls (such as footballs, volleyballs, basketballs, etc.) and other balls (such as hockey, cricket, and rugby balls). It consists of goods for some of the popular sports in India and thus will have high demand. The HS classification for this group is under the codes **950661**, **950662** and **950669**. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95066100	Lawn-tennis balls	Numbers
95066210	Footballs	Numbers
95066220	Volleyballs	Numbers
95066230	Basketballs	Numbers
95066290	Inflatable balls nes	Numbers
95066910	Hockey balls	Numbers
95066920	Cricket balls	Numbers
95066930	Golf balls	Numbers
95066940	Rugby balls	Numbers
95066990	Balls nes	Numbers

#### **g Ice skates, roller skates and skating boots (95067000)**

Ice skating is popular in North India in places like Ladakh, Kashmir, and Shimla where cold climate prevails and it is possible to skate outdoors. Much of India has a tropical climate, hence in the rest of the country, ice skating is limited to the few artificial rinks available. Roller sport is popular as a recreational sport in India, especially roller skating for children, and it is gaining popularity as a competitive sport. The HS classification for this group is under code **950670**. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95067000	Ice skates and roller skates (including skating boots with	Numbers

ITCHS	Description	Unit
	skates attached)	

#### **h Physical exercise, gymnasium and athletics equipment (95069110 – 95069190)**

The HS classification for this group is under code **950691** and is divided into two categories – Boxing equipment and ‘Other’. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95069110	Boxing equipment	Kg
95069190	Other articles and equipment for general physical exercise, gymnastics or athletics	Kg

#### **i Equipment nes for sports, swimming and paddling pools (95069910 – 95069990)**

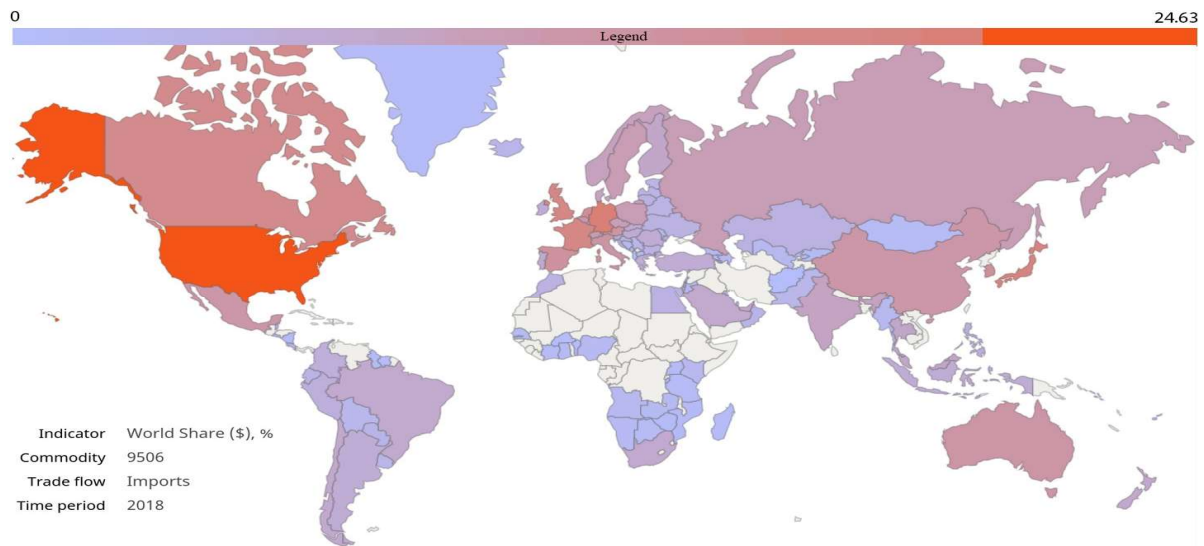
The HS classification for this group is under code **950699** and mostly consists of items such as accessories and equipment for various sports. It also consists of an unclassified group under the category ‘Other’. For India, the 8-digit classification and the respective units are as follows.

ITCHS	Description	Unit
95069910	Badminton shuttlecocks	Numbers
95069920	Leg pads and bats for cricket	Numbers
95069930	Shoulder pads for football	Numbers
95069940	Hockey sticks and blades	Numbers
95069950	Polo sticks (including blades, shafts, and heads)	Numbers
95069960	Sports net	Numbers
95069970	Tennis and badminton racket pressures	Numbers
95069980	Shin-guards and elbow or shoulders pads (excluding those for football); waist, thigh, and hip protective equipment	Numbers
95069990	Other	Numbers



## 1.2 Outline of the report

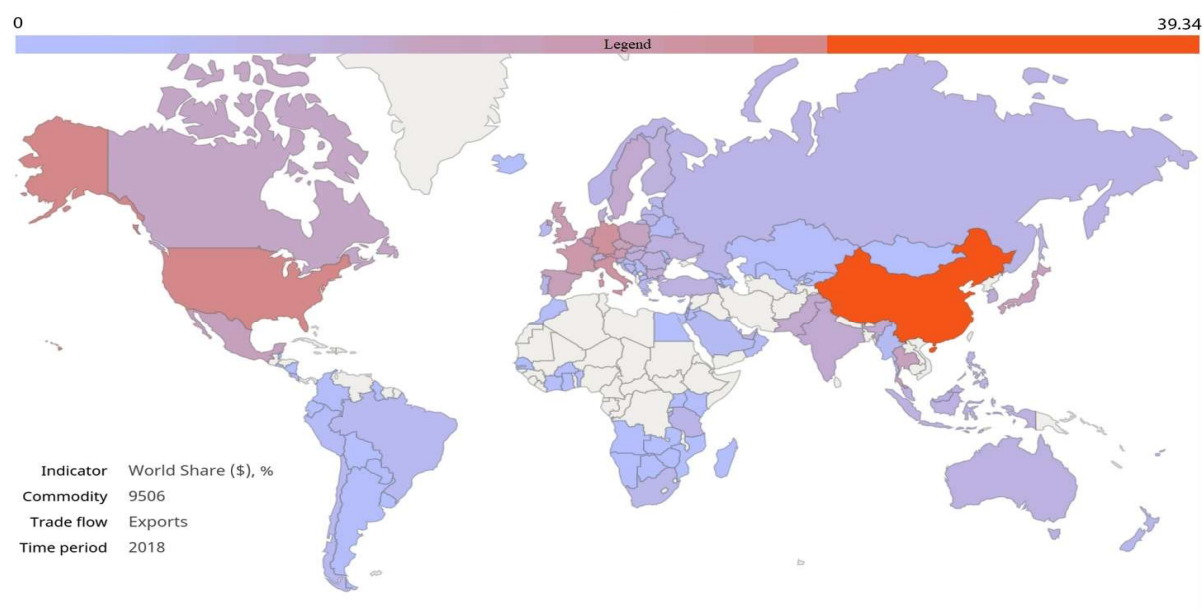
In this report, we analyze the unit rates<sup>1</sup> of each commodity code over the past years (from 2014-2019 overall). The unit rates are compared internationally and across Indian ports as well. While international comparisons in unit rates are possible up to ITCHS 6-digit levels due to international uniformity of classification, comparisons within India can be extended to the ITCHS 8-digit level.<sup>2</sup> The international data are available till 2018 while the national data till December 2019 are used. The analysis is divided into the following chapters. In Chapter 2, the average unit values at which India is importing from the world is compared to the average unit rates at which other countries are importing from the world. This gives us an idea about the relative position of the import prices in India in comparison to the international prices in each group. Chapter 3 focuses on the differential unit rates of Indian imports across different partner countries. This gives an insight on which trading partner(s) are mostly influencing the average import prices in India. Chapter 4 disaggregates the data further using the 8-digit classification and shows the variations in unit rates across different trading partners for different commodities but clustered according to ports. Significant differences in unit rates for imports from the same partner country but different ports, if any, are highlighted. Chapter 5 extends the study to analyze the impact of Chinese imports on India's economy. Since Chinese imports comprise a major share of the overall imports in this commodity, this analysis would be important in gauging how disturbances in the Chinese economy might have an impact on India. Chapter 6 discusses the implications and recommendations for increasing the import tariff on 9506. Before proceeding to Chapter 2, the following two figures will give us a brief idea on the trading patterns of commodity 9506 in the world. Figures 1.1 and 1.2 below indicate the country-wise share of total imports and exports of commodities belonging to **ITCHS 9506** in 2018 respectively.



Source: Trend Economy

Figure 1.1: Country-wise share in imports of equipment for gymnastics, sports, outdoor games (ITCHS 9506) in 2018

- 1 Unit rate of a specific commodity code is calculated by dividing the total import trade value divided by the total quantity of imports in a specific time period.
- 2 An important thing to note is that the currency differs in both the datasets and the unit rate is represented in international Dollars and INR respectively in the 6-digit and 8-digit comparisons.



Source: Trend Economy

Figure 1.2: Country-wise share in exports of equipment for gymnastics, sports, outdoor games nes (ITCHS 9506) in 2018

In 2018, for imports, USA holds the maximum market share of 24.63% of the total imports. China only accounts for 2.14% of the total imports and India accounts for 0.9% only in the global import scenario. On the other hand, for exports, China dominates the market share with 39.34% of world exports. USA accounts for 7.48% of the world exports and India accounts for 0.71% only.

## Chapter 2

### Comparison of unit rates across countries

In the era of trade liberalization, we can use the average international import price as a benchmark to evaluate the unit rate at which India is importing the commodities. However, there still exist various reasons why the unit rates should differ across countries. One of the reasons, which we find in this study multiple times, is that imports in large quantities result in lower unit prices. In terms of economic theory, this may happen due to second-degree price discrimination which includes block-pricing or it may also be due to falling average costs when the quantity increases in the presence of certain fixed costs, such as transportation. The primary reason is that the basket of commodities of a particular country is not identical to other countries and one of the major contributors to the difference in prices is the quality of goods. This parameter, unfortunately, cannot be captured by numerical data. Therefore, to mitigate the effects of quality, we take unit rates of a set of countries and average it; the implicit assumption being that India's import basket in terms of quality will lie within the import basket of all the countries. Keeping this idea in mind, we take two groups of countries, calculate the average unit rate for each commodity code and compare these values with that of India.

The set of countries is selected in the following way. The first group consists of countries with similar per capita income (adjusted for purchasing power parity) like India.<sup>3</sup> This group represents countries that should have similar demand patterns. The second group consists of 5 countries with the highest import values, for each commodity code, within the time frame of this analysis.<sup>4</sup> We can assume that this group will mostly consist of developed nations and may represent higher-quality commodity bundles on average.

The analysis is represented with the help of graphical representation annual data from 2014 to 2018 in the following sections. The figures have time on the x-axis and 'Unit Values' in international Dollars on the y-axis with the quantity unit mentioned. Each circle represents the average unit value of importing the items belonging to the ITC code in question in a particular country at a given year. Also, the size of the circle is denoted in proportion to the quantity of the commodity imported. It should be noted that importing a larger quantity may involve differential pricing and lower average unit rates. The labels on each circle represent the country code and the list of country codes is available in the Appendix. The groups are differentiated using three different colors. Circles in red repre-

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3 The per capita income is represented by GDP per capita (PPP) at current international dollars and is sourced from [UN Data](#). 10 countries, on average, with the lowest absolute deviation from India's per capita income were chosen. These countries are Honduras, Lao People's Dem. Rep., Mauritania, Nigeria, Nicaragua, Pakistan, Rep. of Moldova, State of Palestine, Vietnam and Yemen.

4 5 countries having the highest total trade (import) value over the time period of 5 years in each of the 6-digit commodity classification have been selected. The list includes Australia, Austria, Belgium, Canada, China, Czechia, France, Germany, Hong Kong SAR, Italy, Japan, Mexico, Netherlands, Rep. of Korea, Russian Federation, Singapore, Spain, Switzerland, United Kingdom and USA.

sent unit rates for India, while those in green and blue represent countries with similar per capita income and countries with the highest import values respectively. The straight and dotted lines represent the average unit rate across countries in a group each year. The following sections, given code-wise, focus on finding and comparing the trends and patterns in these average price lines.

**a Snow-skis and other snow-ski equipment (950611 – 950619)**

The unit value of items in ITC HS 950611 (Skis) for India was considerably at par with the average international prices till 2017. However, as evident from Figure 2.1, the reported value in 2018 faces a sharp decline, unlike the international prices, and is at an extremely low value. The number of skis imported in India increased from 808 in 2017 to 3086 in 2018 and this may explain the sharp drop in prices. Therefore, there is no sufficient evidence to suspect under-invoicing, but further investigation is required to determine the exact cause of the price drop.

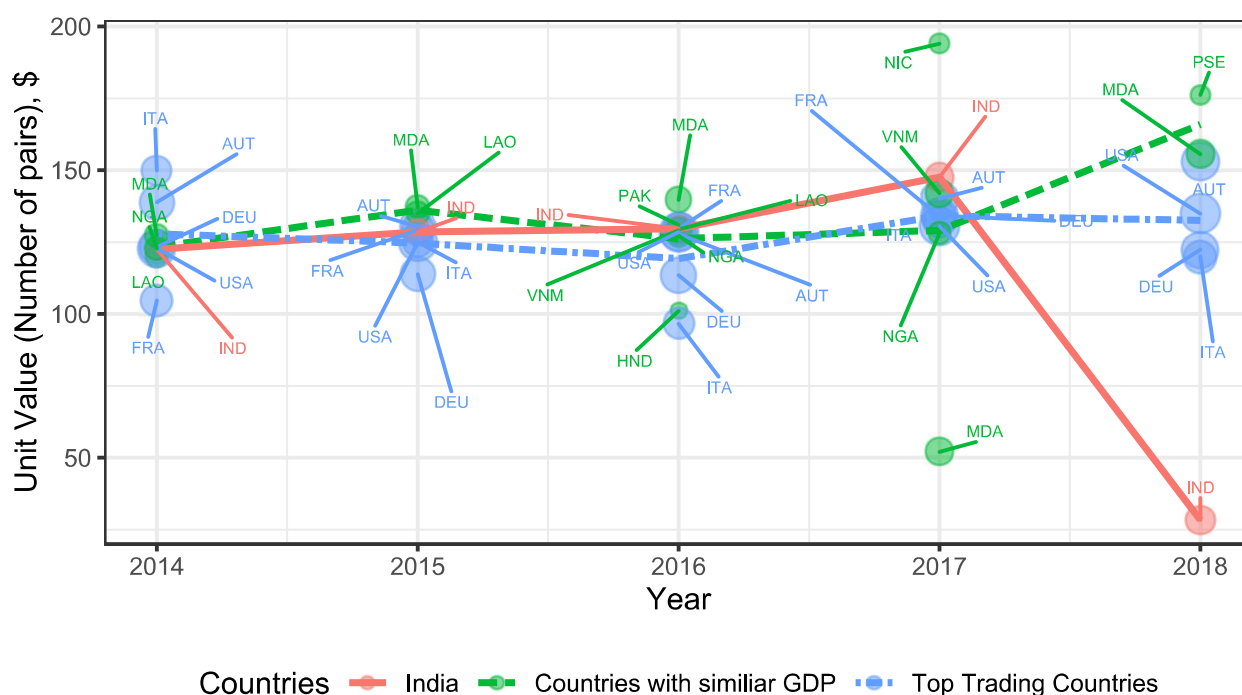


Figure 2.1: Unit values of ITHS 950611 (Skis)

The unit value of items in ITC HS 950612 (Ski-fastenings or ski-bindings) for India in recent years has been lower than the average international prices. Figure 2.2 shows that there is a decreasing trend in prices from 2017 to 2018 but it is consistent with that of other countries with similar per capita income. The unit value for India in 2018 lies between that of Austria and Nigeria and is the second-lowest value in the ranking. The sharp decline in prices from 2015 to 2016 may be attributed to the increase in imports from 1152 kg to 21552 kg in the respective years. Thereafter, the import quantity fell and the unit prices showed an increasing trend again with a slight decline in 2018.

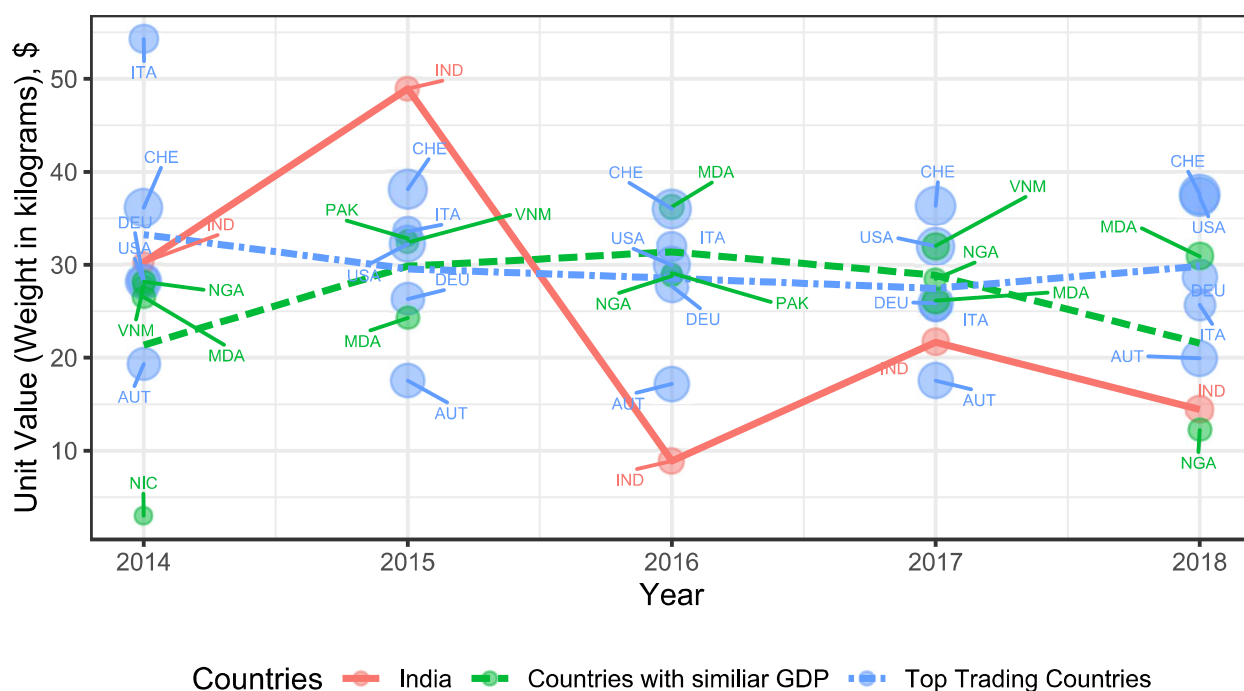


Figure 2.2: Unit values of ITCHS 950612 (Ski-fastenings or ski-bindings)

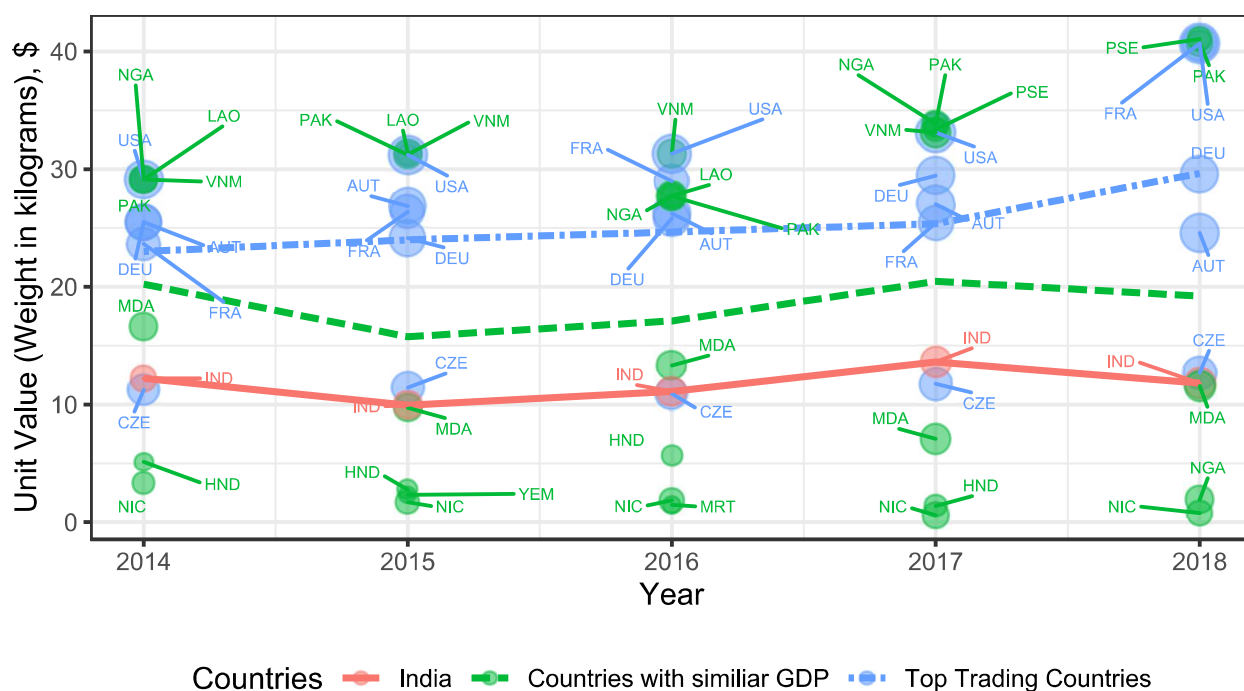


Figure 2.3: Unit values of ITCHS 950619 (Ski - Other)

The unit value of items in ITCHS 950619 (Ski – Other) is stable for India over the years and there are no noticeable anomalies. However, as evident from figure Figure 2.3, it is consistently less than

the international prices. The unit rates are almost similar to that of Czechia, a country that belongs to the top importing nations in this category.

## b Water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629)

As per Figure 2.4, in 2017, the number of items imported under ITCHS 950621 was 671 with unit value prices being \$245.46, whereas, in 2018 the quantity fell to 265 units with the prices also falling to \$83.74. This fall in prices even with imports falling may be attributed to quality differences among other factors. Looking at the weight of imports in 2017 and 2018, we found out that the average weight per unit fell from 5 kg to 1.58 kg in the respective years. We find a similar pattern for each of the high prices reflecting higher average weights. The higher international prices can also be attributed to quality differences among other things. For example, the average weight per unit for imports by the USA ranges from 5.7 kg to 8.8 kg.

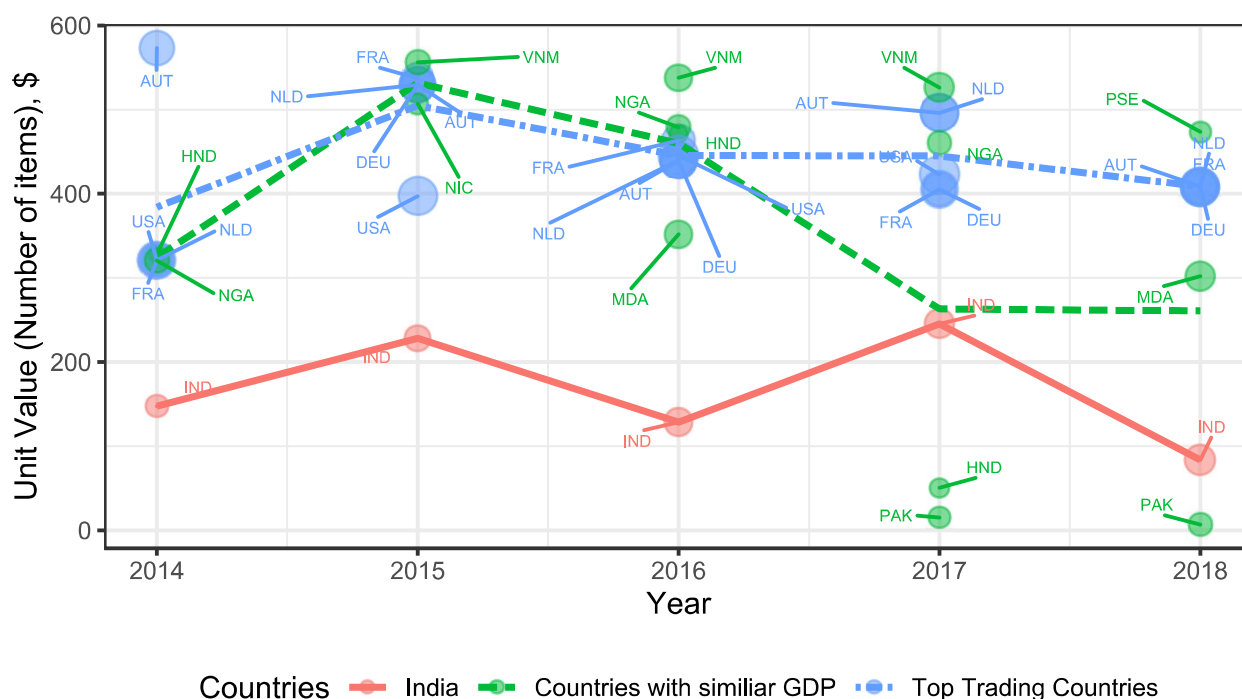


Figure 2.4: Unit values of ITCHS 950621 (Sailboards)

According to Figure 2.5, the unit value of imports of items under ITCHS 950629 (Water-sports: Other) for India is relatively at par with the average unit value of countries with similar GDP. The difference with that of top trading countries may be attributed to quality like mentioned before.

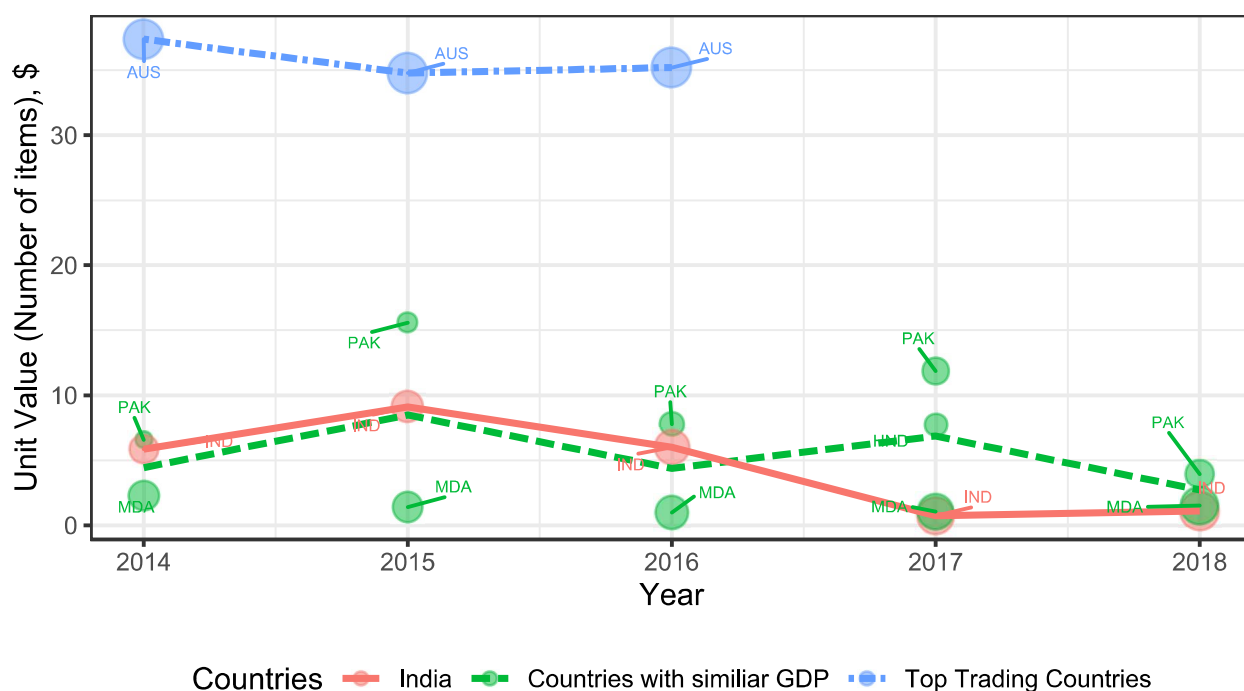


Figure 2.5: Unit values of ITCHS 950629 (Water-sports: Other)

c **Golf clubs and other golf equipment (950631 – 950639)**

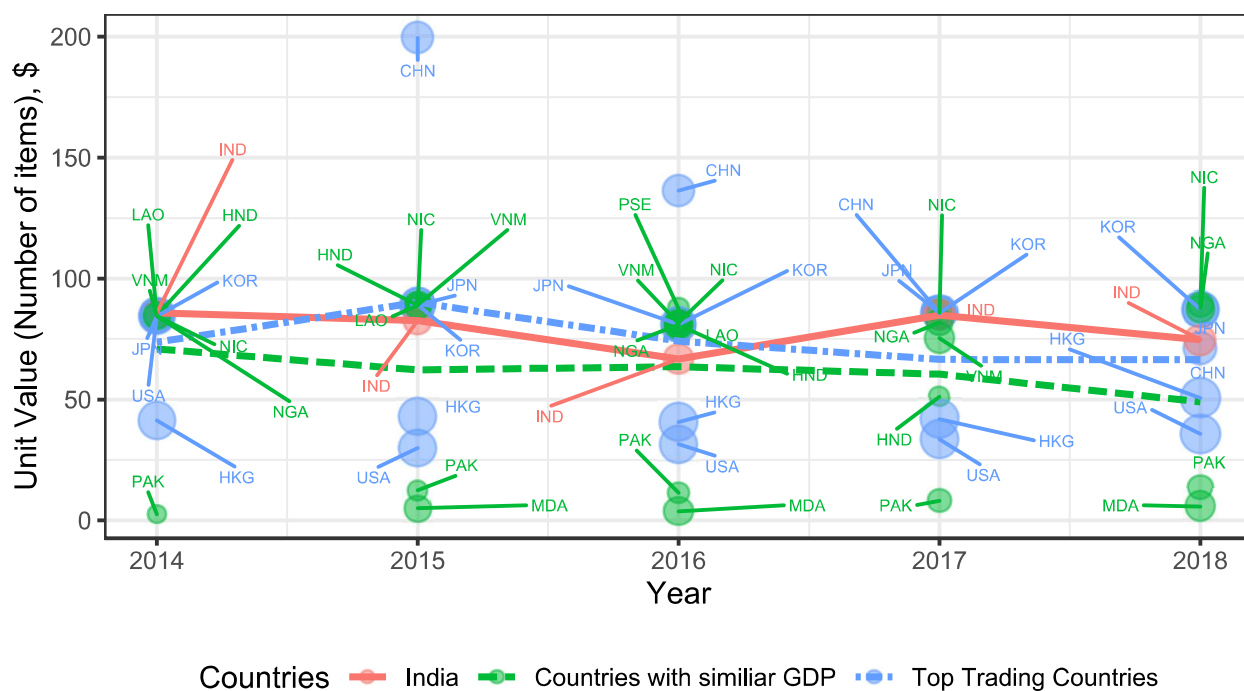


Figure 2.6: Unit values of ITCHS 950631 (Golf Clubs: Complete)



## Chapter 2

According to Figure 2.6, the unit value of items under ITCHS 950631 is at par with the international average prices. The high trend line for India can be attributed to the fact that the demand for golf in India is lower than in many countries. For example, in 2018, the quantity imported by India was 28,824 whereas that of the USA was 1,21,27,149.

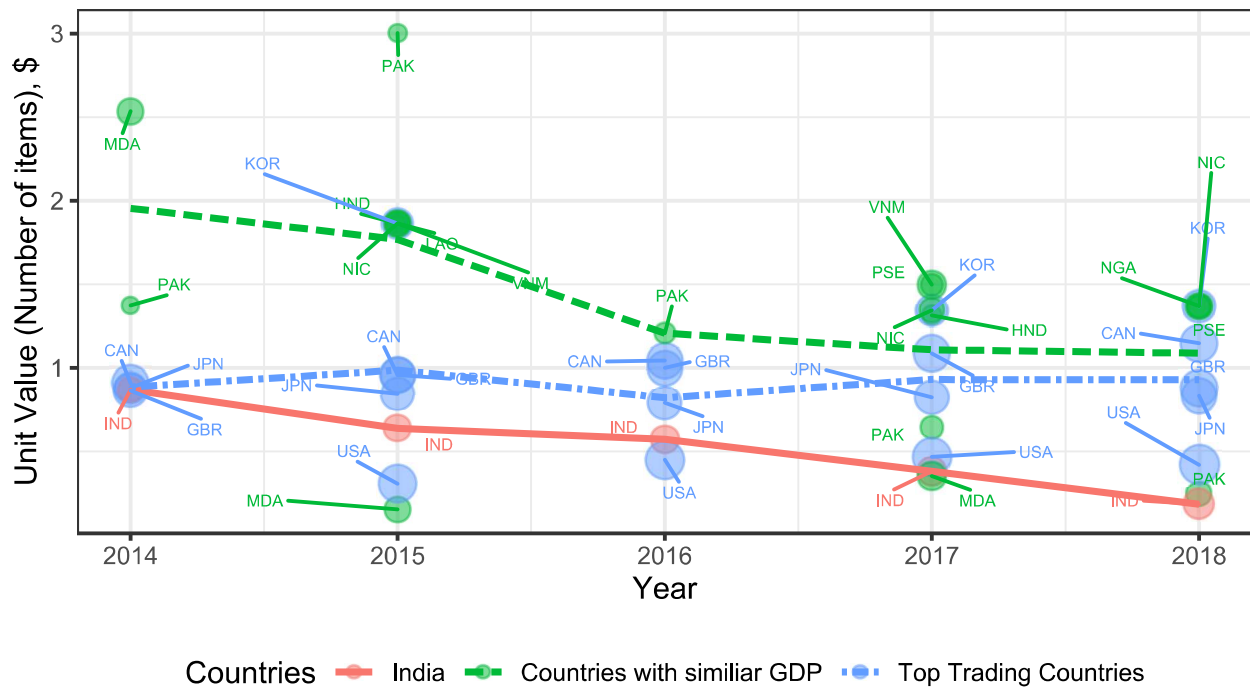


Figure 2.7: Unit values of ITCHS 950632 (Golf balls)

According to Figure 2.7, the decreasing trend observed by the falling unit value of items under ITCHS 950632 for India can be attributed to the increase in the import quantity over the years from 9,99,571 units in 2014 to 80,96,483 units in 2018. Among countries with similar GDP, India is the highest importer of golf balls and this can be attributed to the lower prices. The difference in prices with the top trading nations may be due to quality differences.

The broad category of other golf equipment under ITCHS 950639 cannot be commented upon without knowing the specific composition. However, as evident from Figure 2.8, the values for India are consistently lower than the average international prices.





The unit value for items under ITCHS 950640 is relatively stable over the years and, according to Figure 2.9, lies between the average international prices of the two groups. The top trading countries with higher GDP is likely to import higher quality products with higher unit values. If we compare the unit value of specific top trading nations, we see that the values of the USA and India are similar.

**e Tennis, badminton or similar rackets, whether or not strung (950651 – 950659)**

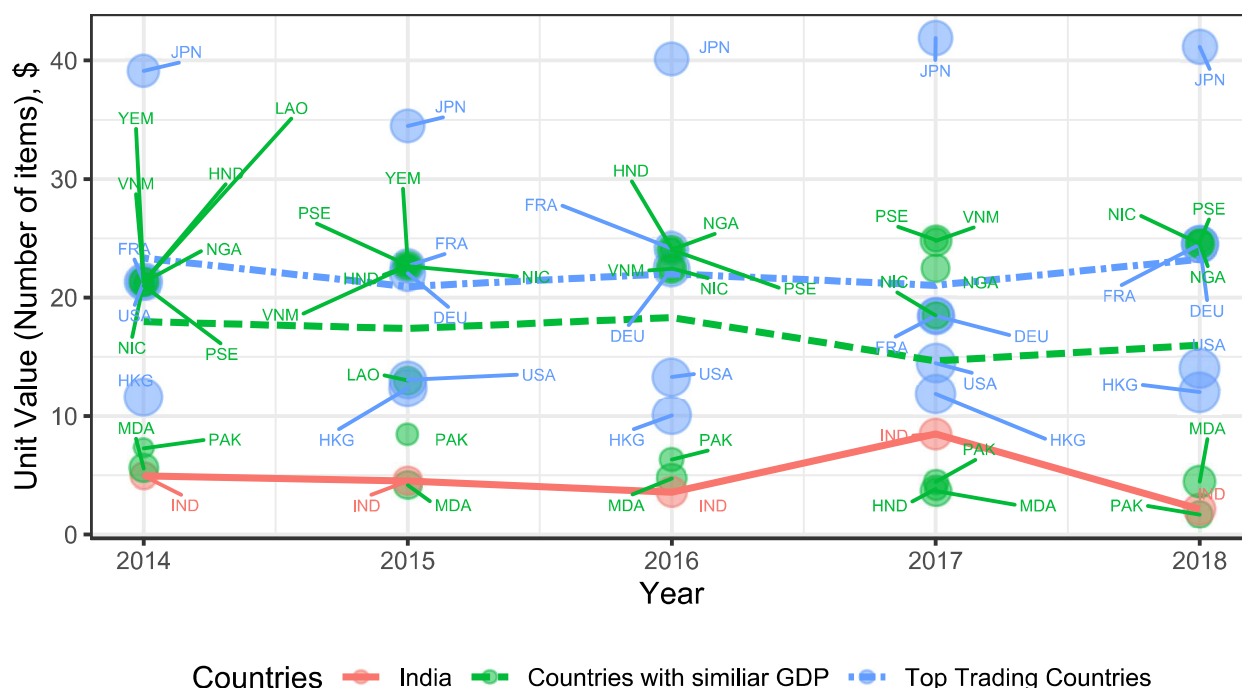


Figure 2.10: Unit values of ITCHS 950651 (Lawn tennis rackets)

According to Figure 2.10, the trend for India in the unit import values of items under ITCHS 950651 goes up in 2017 and then falls in 2018. This can be attributed to the decrease in quantity imported from 5,60,451 units to 3,08,091 units and then increasing to 18,07,672 units in 2018. Countries with similar low prices are Pakistan and Rep. of Moldova. The overall low price for this commodity needs further investigation.

In Figure 2.11, we see that the unit value of ITCHS 950659 for India is lower than the international average prices. Post-2016, the trend in unit values for India is decreasing. However, at the same time, India is an exporter in this group and was the 4<sup>th</sup> largest exporter in terms of quantity in 2018. Thus, India might be importing only the cheaper products to cater to the various sections of the society.

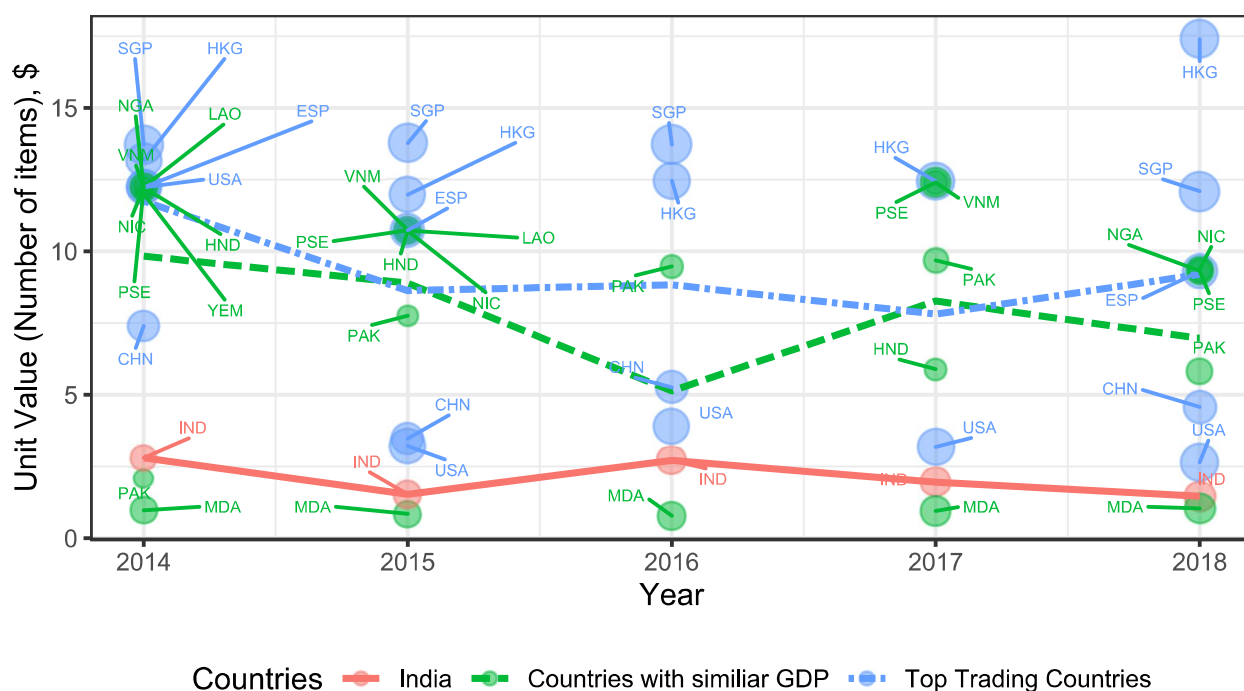


Figure 2.11: Unit values of ITCHS 950659 (Squash or racketball badminton rackets)

#### f Balls, other than golf balls and table-tennis balls (950661 – 950669)

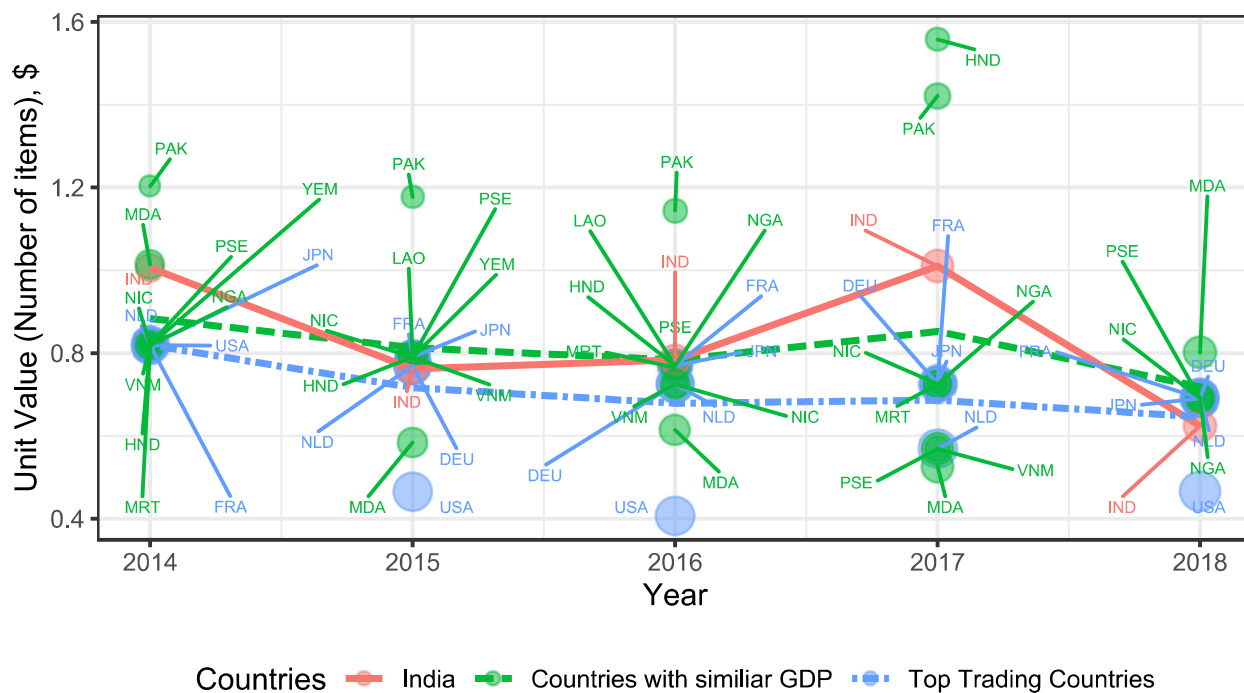


Figure 2.12: Unit values of ITCHS 950661 (Lawn-tennis balls)

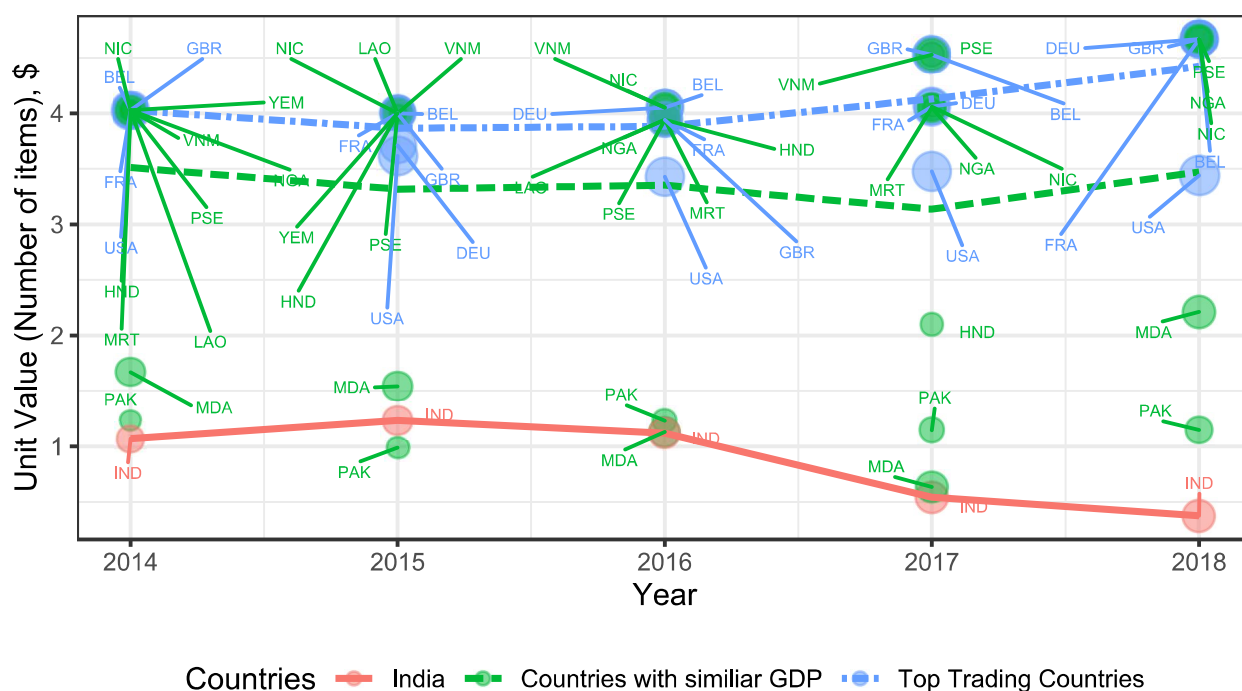


Figure 2.13: Unit values of ITCHS 950662 (Inflatable balls)

According to Figure 2.12, the unit value for items under ITCHS 950661 in India is relatively at par with the international prices. There is, however, a decline in the values in 2018 which can be attributed to the increase in quantity imported from 20,38,757 units in 2017 to 39,60,564 units in 2018. International prices also faced a decline in trend with a slight increase in 2017, similar to that of India.

ITCHS code 950662 is a broad category consisting of football, basketball, volleyball and other inflatable balls and, hence, any analysis is not possible without knowing the composition of the basket. However, as evident from Figure 2.13, the prices of India's imports are below that of international prices and have decreased in recent years, since 2016.

ITCHS code 950669 is also a broad category consisting of hockey, cricket, golf, rugby and other balls and, hence, any analysis is not possible without knowing the composition of the basket. However, on analysing Figure 2.14, we can conclude two things. One, the prices are not only below international prices but are also falling each successive year. Two, the quantity of imports has also gone up significantly over the past years.

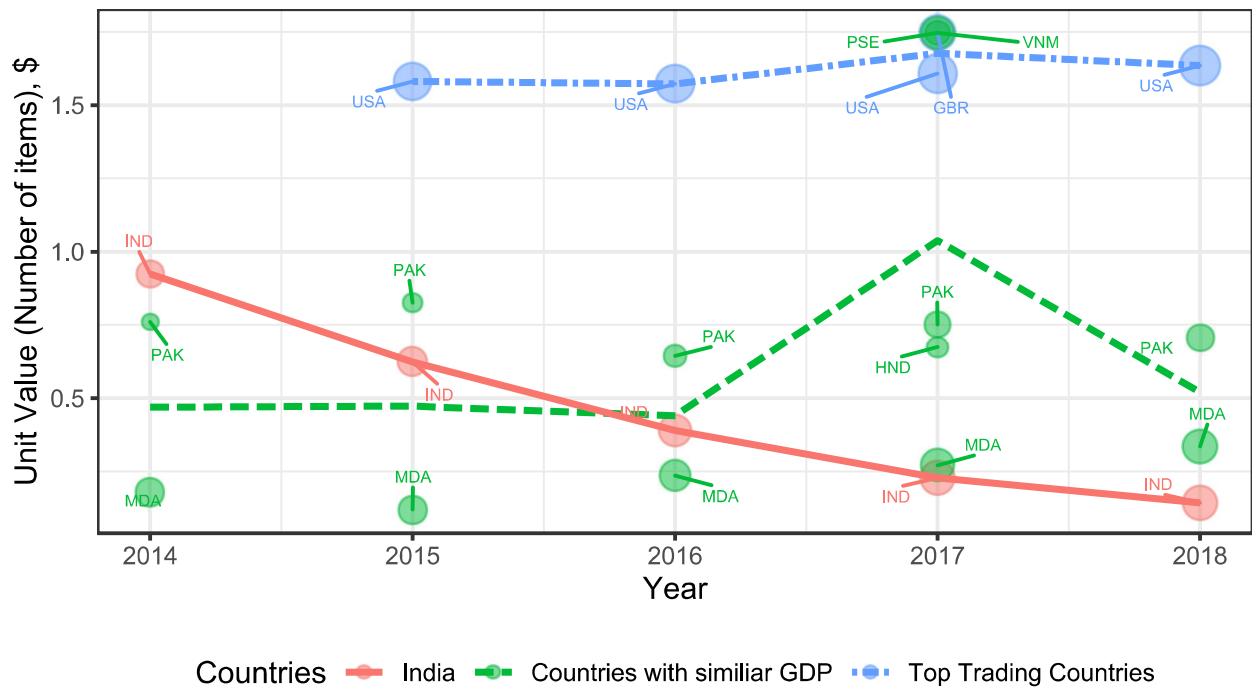


Figure 2.14: Unit values of ITCHS 950669 (Balls - Other)

## 9 Ice skates, roller skates and skating boots (950670)

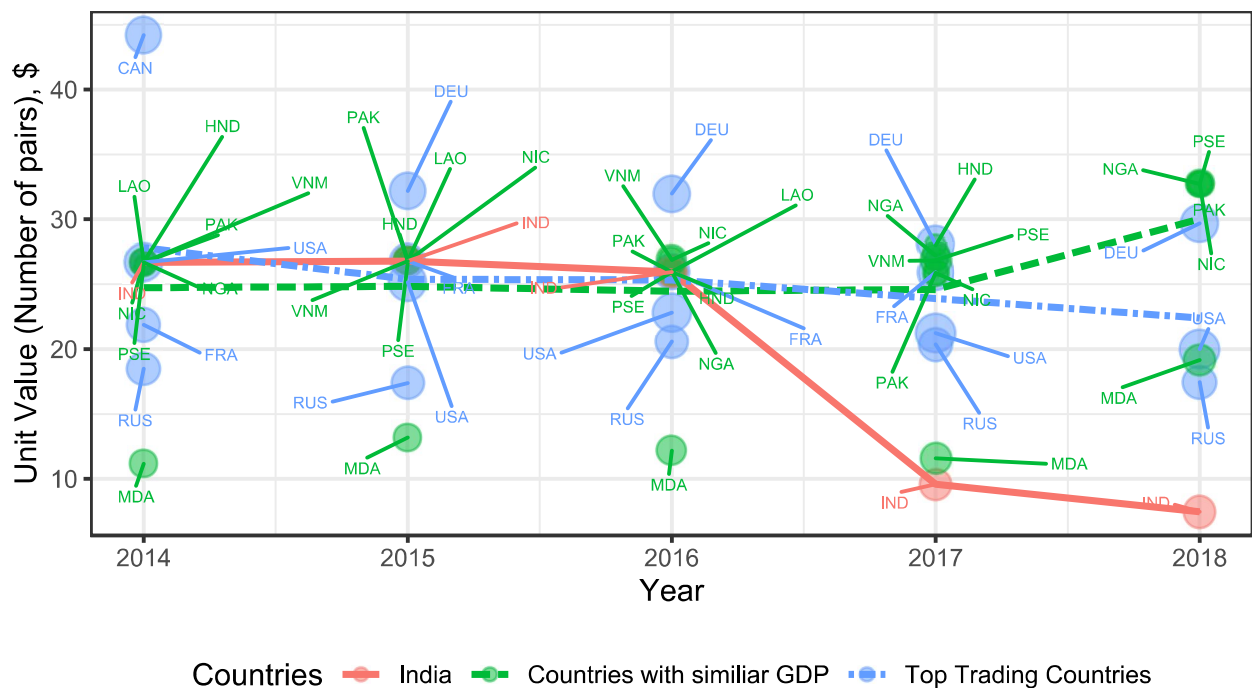


Figure 2.15: Unit values of ITCHS 950670 (Ice and roller skates)

The decrease in the trend of unit value for ITCHS 950670 in India might follow from the increase in import quantity from 98,270 in 2016 to 2,98,927 and 5,54,913 in 2017 and 2018 respectively. However, this increase in quantity imported is not sufficient to justify the falling and diverging prices. The average unit value for India in 2018, statistically speaking, is an outlier when compared to the rest of the data points in Figure 2.15. However, further investigation is required to determine the cause of the fall in prices.

## h Physical exercise, gymnasium and athletics equipment (950691)

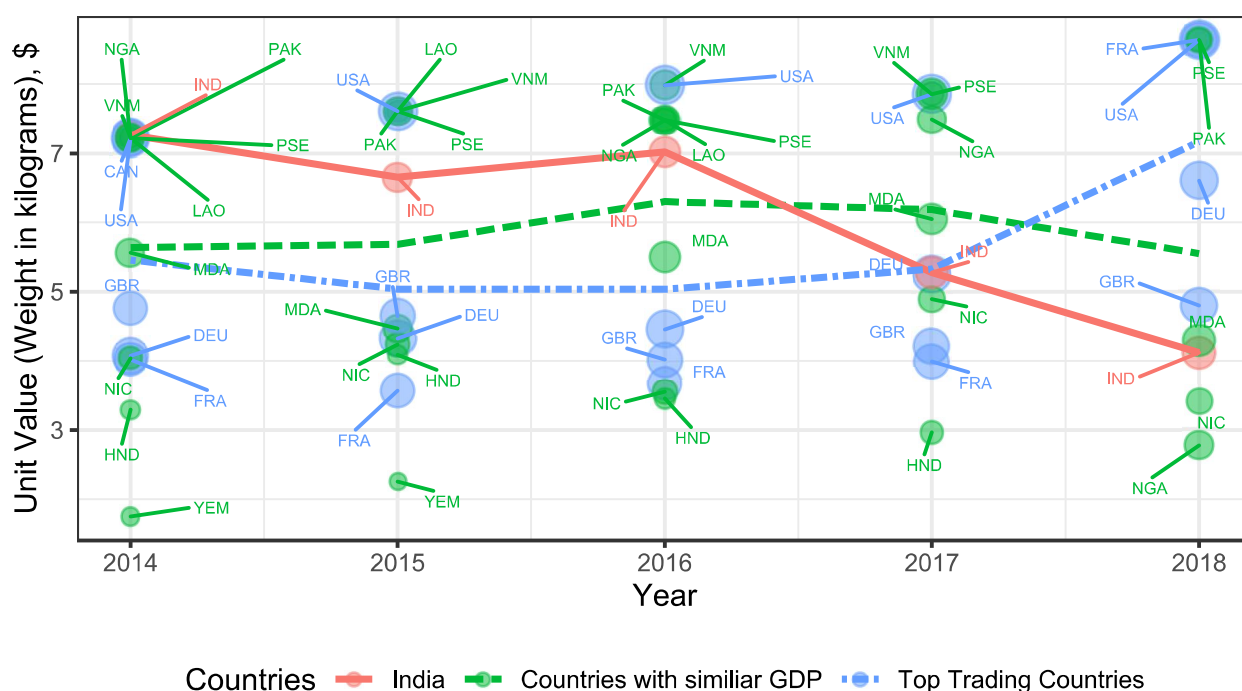


Figure 2.16: Unit values of ITCHS 950691 (Equipment for boxing and athletics)

The unit value for ITCHS 950691 for India was higher than the international prices, as evident Figure 2.16, which, however, experienced a steep decline since 2016. This could be attributed to the increase in import quantity from 60,36,476 kg in 2016 to 91,97,252 kg and 3,21,00,347 kg in 2017 and 2018 respectively. Therefore, there is no sufficient evidence for under-invoicing.

## i Equipment nes for sports, swimming and paddling pools (950699)

ITCHS 950699 consists of sport equipment not elsewhere specified and consists of a broad range of items, therefore constraining the scope of analyzing items belonging to this category. However, as evident from Figure 2.17, there is a declining trend in the unit value of India's imports in this category.

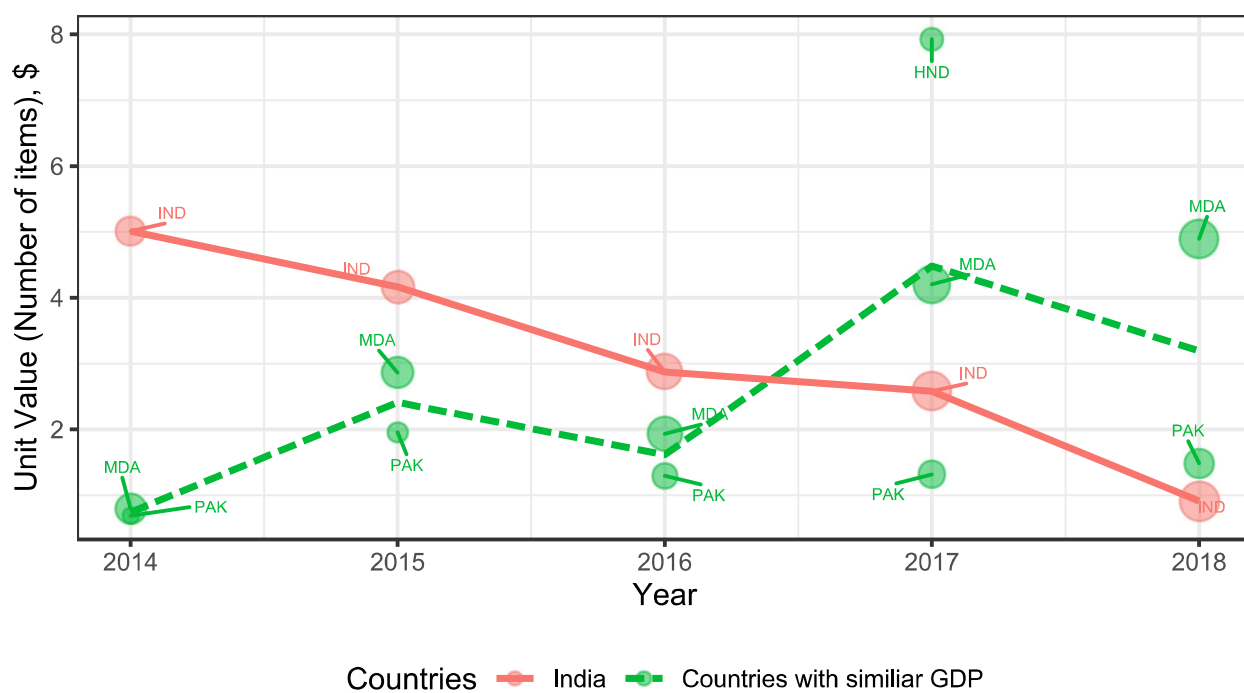


Figure 2.17: Unit values of ITCHS 950699 (Equipment nes for sports, swimming and paddling pools)





## Chapter 3

### Analysis of Indian imports across partner countries

Having an insight into how the commodity average import unit rates differ across countries, we now turn our attention to India's commodity basket. In this chapter, we look at the imports in each commodity group coming from different trading partners and the respective average unit rates and the quantity. The visualization of the data gives us an easy reference to quickly point out the sources of cheap (or expensive) imports along with an idea about the import shares. Like before, the x-axis and the y-axis represent years and average unit rates respectively. One thing to note in the following figures is the scale of the axis. Despite eliminating positive outliers (extreme high values), sometimes the graphical representation was better using a logarithm scale. This gives a better view of the values which are closer to the x-axis. The size of the circles is in proportion to the quantity imported from these partner countries and the line connecting the circles shows us the trend in average unit rates for each partner country.

#### a Snow-skis and other snow-ski equipment (950611 – 950619)

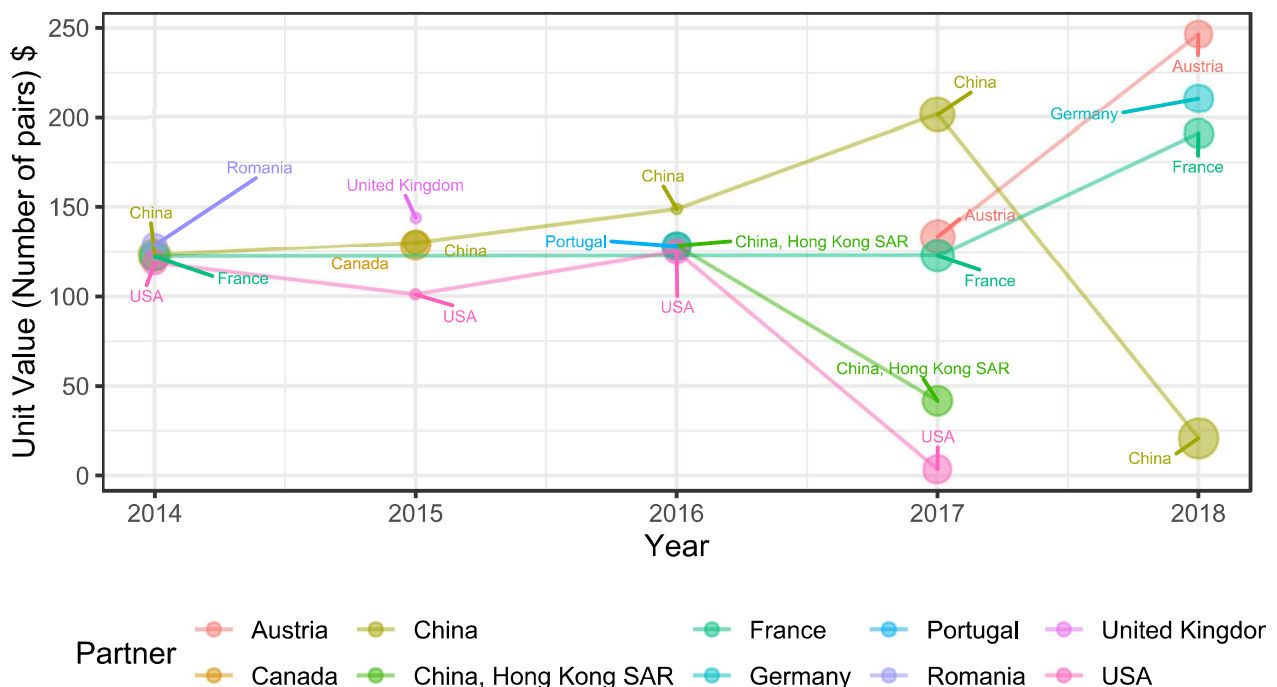


Figure 3.1: Unit values of ITCHS 950611 (Skis) in Indian imports across countries

The world market for ski products has been dominated by Austria. However, according to Figure 3.1, China is one of the dominant partners from where India imports commodities belonging to ITCHS 950611 and that has been relatively constant throughout the years except for 2016 when Portugal was the highest exporter to India. The import unit values for this group were relatively similar for all partner countries until 2016, after which the prices were diverging with a few countries offering higher prices and a few offering lower prices. Prices for imports from the USA, Hong Kong SAR reduced while that of France and Austria increased in recent years. The prices for Chinese imports went up in 2017 but fell sharply in 2018 to be on par with prices for USA imports in 2017.

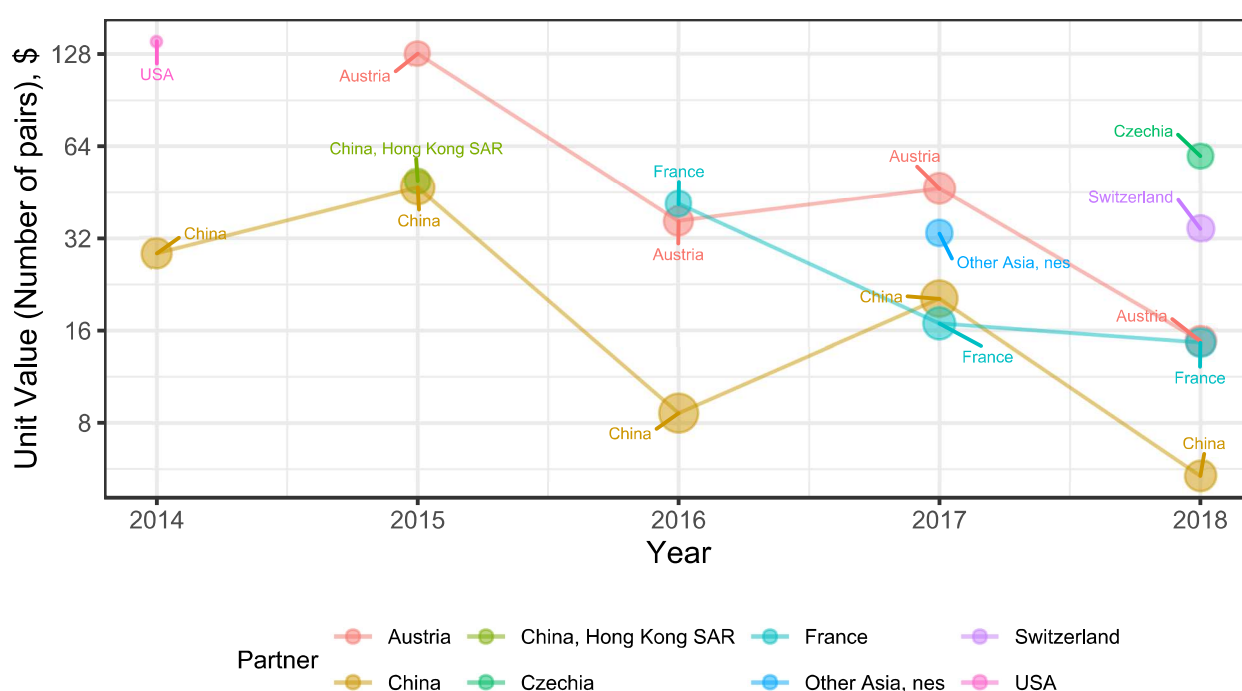


Figure 3.2: Unit values of ITCHS 950612 (Ski-fastenings or ski-bindings) in Indian imports across countries [log-scale]

Major partners in import of items under ITCHS 950612 are China, Austria, and France but China dominates the market share of imports. Looking at both China and Austria in Figure 3.2, the trend for the import prices follows an oscillating decreasing trend (note that a logarithmic scale for the y-axis has been chosen for better representation). The prices of Chinese imports are consistently below that of Austria. This may be due to the large volume of imports from China, lesser transportation costs, and (or) quality differences.

The broad category of ITCHS 950619, consisting of different item groups, cannot be commented upon. However, according to Figure 3.3 the prices seem relatively stable over time (note that a logarithmic scale for the y-axis has been chosen for better representation).

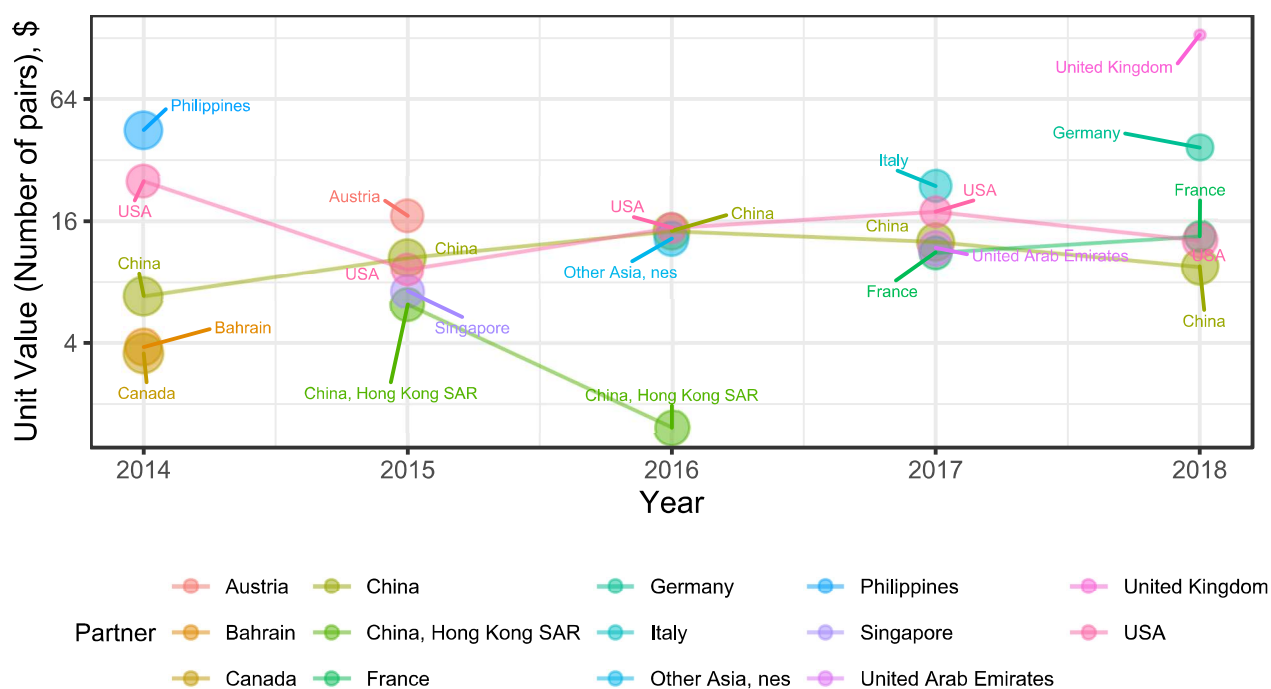


Figure 3.3: Unit values of ITCHS 950619 (Ski - Other) in Indian imports across countries [log-scale]

## b Water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629)

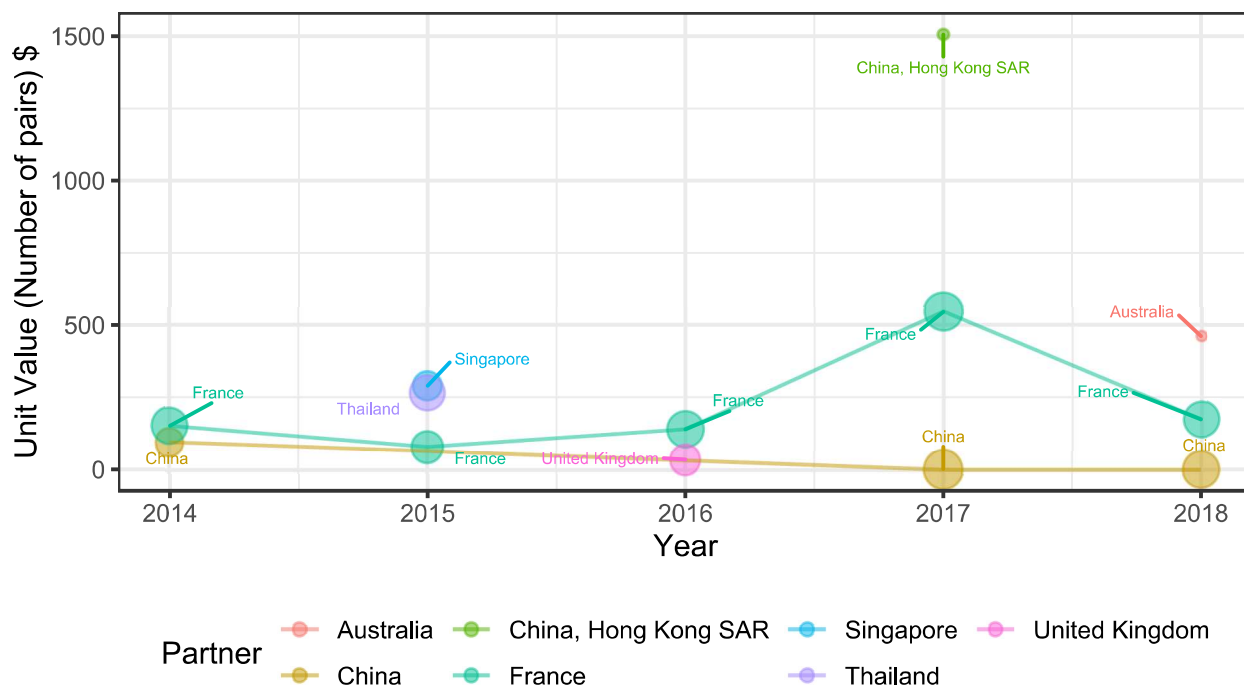


Figure 3.4: Unit values of ITCHS 950621 (Sailboards) in Indian imports across countries

China and France are the two partner countries that dominate imports in ITCHS 950621. As evident from Figure 3.4, the price of Chinese imports has decreased over time with the volume of imports going up and the French import prices had gone up considerably in 2017 and fell again in 2018. However, Chinese imports are considerably cheaper than French imports.

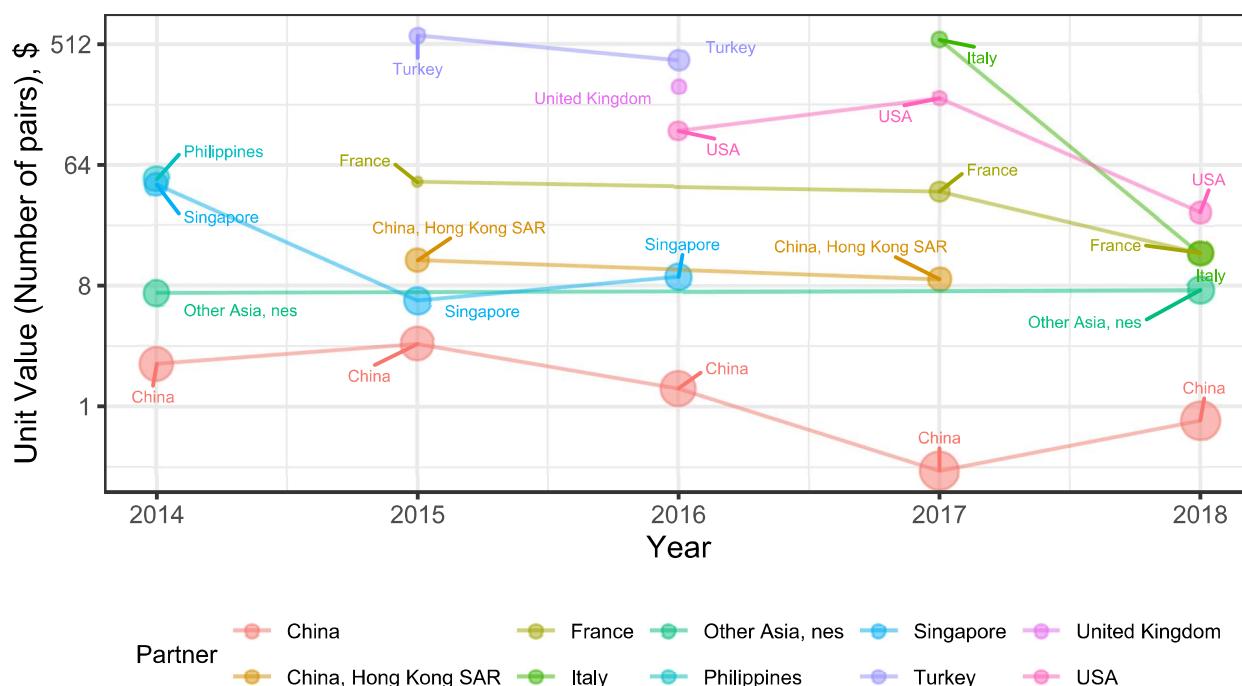


Figure 3.5: Unit values of ITCHS 950629 (Water-sports: Other) in Indian imports across countries [log-scale]

As the specific composition of the group is unknown, the broad category of ITCHS 950629 cannot be commented upon. However, as evident from Figure 3.5, this market is also dominated by Chinese imports and it is also the cheapest (note that a logarithmic scale for the y-axis has been chosen for better representation). The prices of Chinese imports showed a decreasing trend from 2015 to 2017 and it increased slightly in 2018.

### c Golf clubs and other golf equipment (950631 – 950639)

According to Figure 3.6, the reported unit price for commodity ITCHS 950631, imported from Vietnam, has fallen since 2015 and offers golf clubs cheaper than the USA and China in recent years. The quantity imported from China has been relatively constant with a maximum of 23,158 units in 2016. On the other hand, the prices of imports from Singapore faces a steep increase from \$54.35 in 2016 to \$141.22 in 2017 for which the quantity fell from 834 units to 310 units in the respective years. However, even with high prices of \$147.92 in 2018, the quantity increased several folds to 2286 units. Other than the prices of Singapore and Vietnam, all other prices showed a declining trend in 2018.

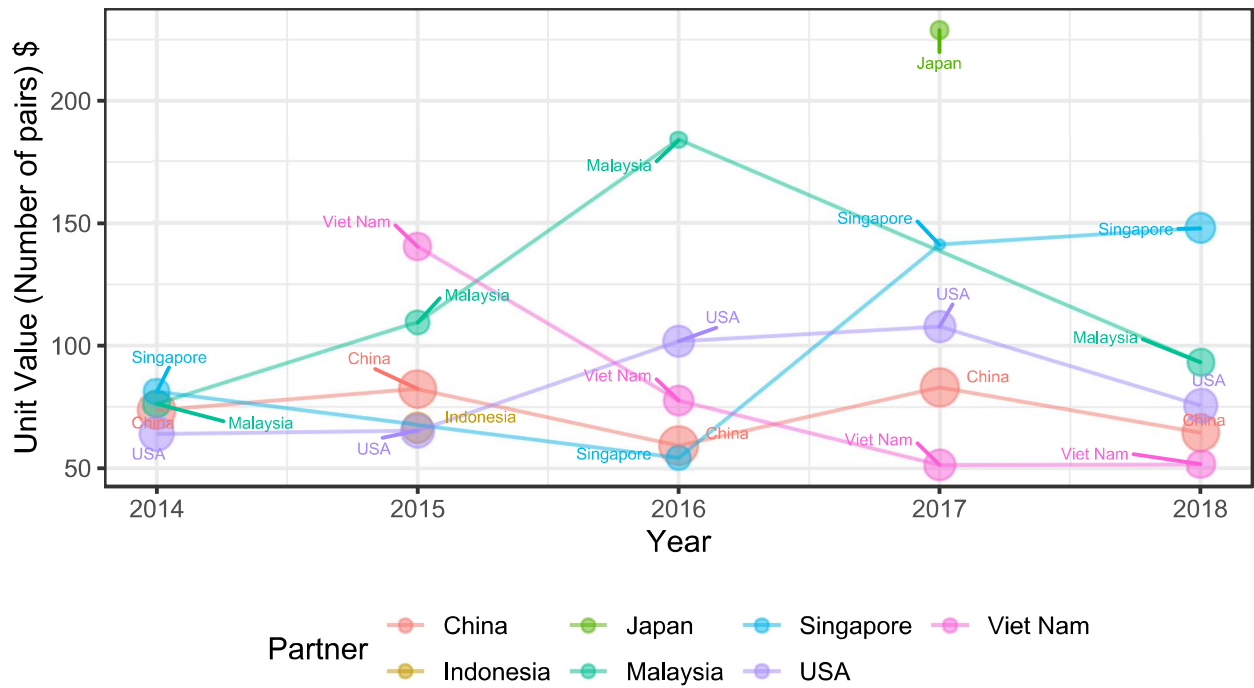


Figure 3.6: Unit values of ITCHS 950631 (Golf Clubs: Complete) in Indian imports across countries

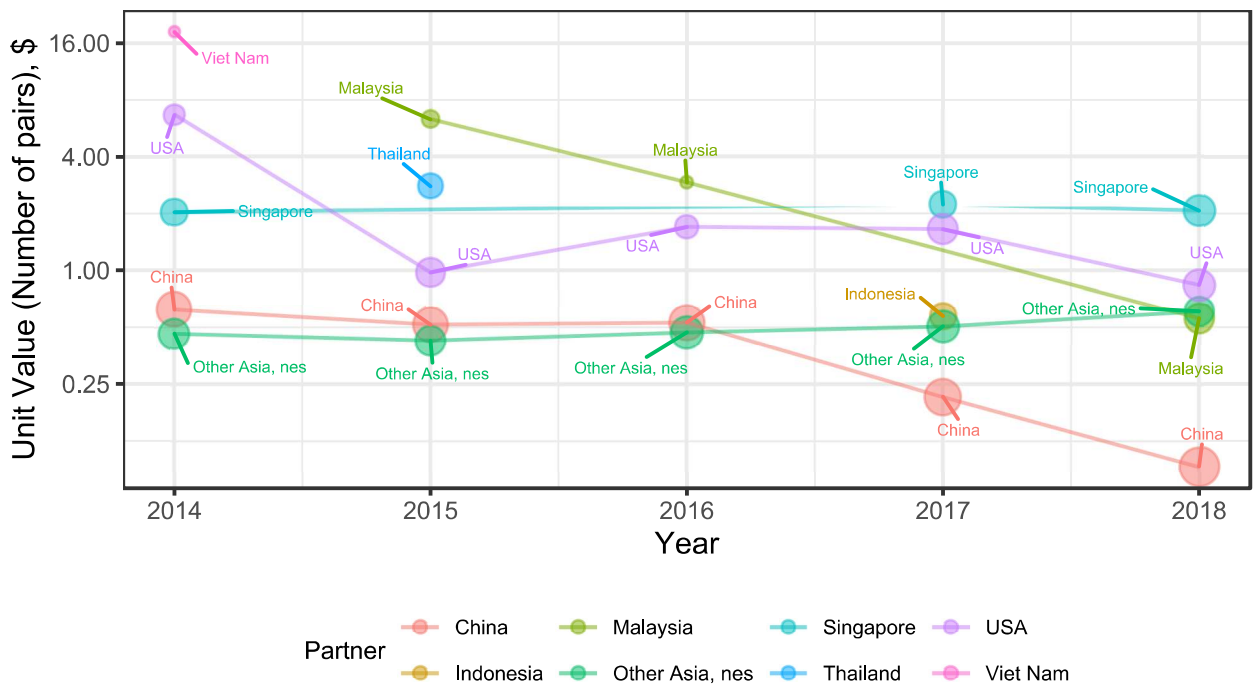


Figure 3.7: Unit values of ITCHS 950632 (Golf balls) in Indian imports across countries [log-scale]

The unit price of items under ITCES 950632 for imports from China, as evident from Figure 3.7, show a declining trend since 2016. This may be attributed to the increase in the volume of imports from China, from 12,49,072 units in 2016 to 20,66,206 units and 72,97,971 units in 2017 and 2018 respectively. In 2018, imports from other countries, such as Malaysia, USA, and Singapore; also registered a fall in prices (note that a logarithmic scale for the y-axis has been chosen for better representation).

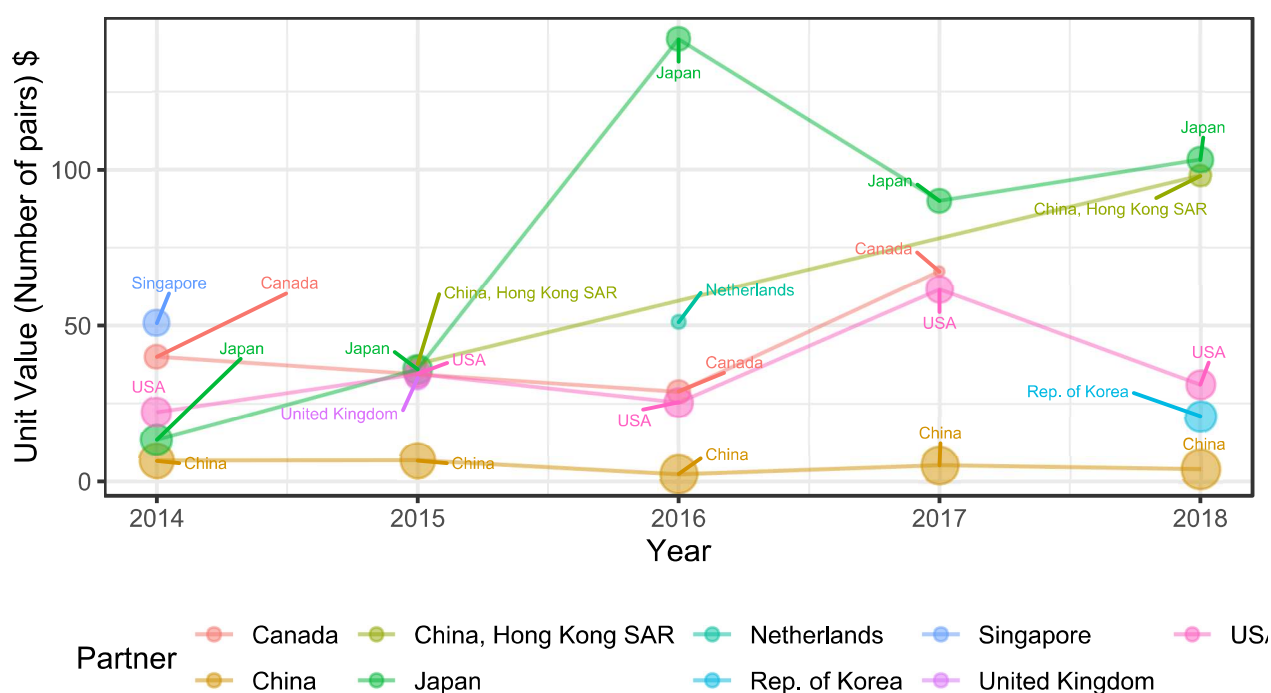


Figure 3.8: Unit values of ITCES 950639 (Golf – Other) in Indian imports across countries

The broad category of other golf items under ITCES 950639 cannot be commented upon without knowing the specific composition. However, as evident from Figure 3.8, the values for Chinese imports are consistently lower than all other import prices.

#### d Articles and equipment for table-tennis (950640)

Indian imports for items under ITCES 950640 have similar patterns in unit values over the years irrespective of the country of origin or volume imported, as seen from Figure 3.9 on page 27. This is a striking feature and is unique for this commodity. The prices go up steeply for imports from all countries in 2017 and register a slight decline in 2018. This market is also dominated by Chinese imports.

#### e Tennis, badminton or similar rackets, whether or not strung (950651 – 950659)

According to the Figure 3.10 on page 27, the unit value of ITCES 950651 is lowest for Chinese imports, which also dominates this market. The price fall from \$7.39 in 2017 to \$1.29 in 2018 may be

attributed to the increase in import volume from 2,95,720 units to 17,55,733 units in the respective years. The prices of Japanese imports, which holds the second-largest market share in 2018, registered a steep decline in the very same year. This, also, may be due to an increase in import volume which has gone up to 19,033 units in 2018 from only 3,240 in 2017.

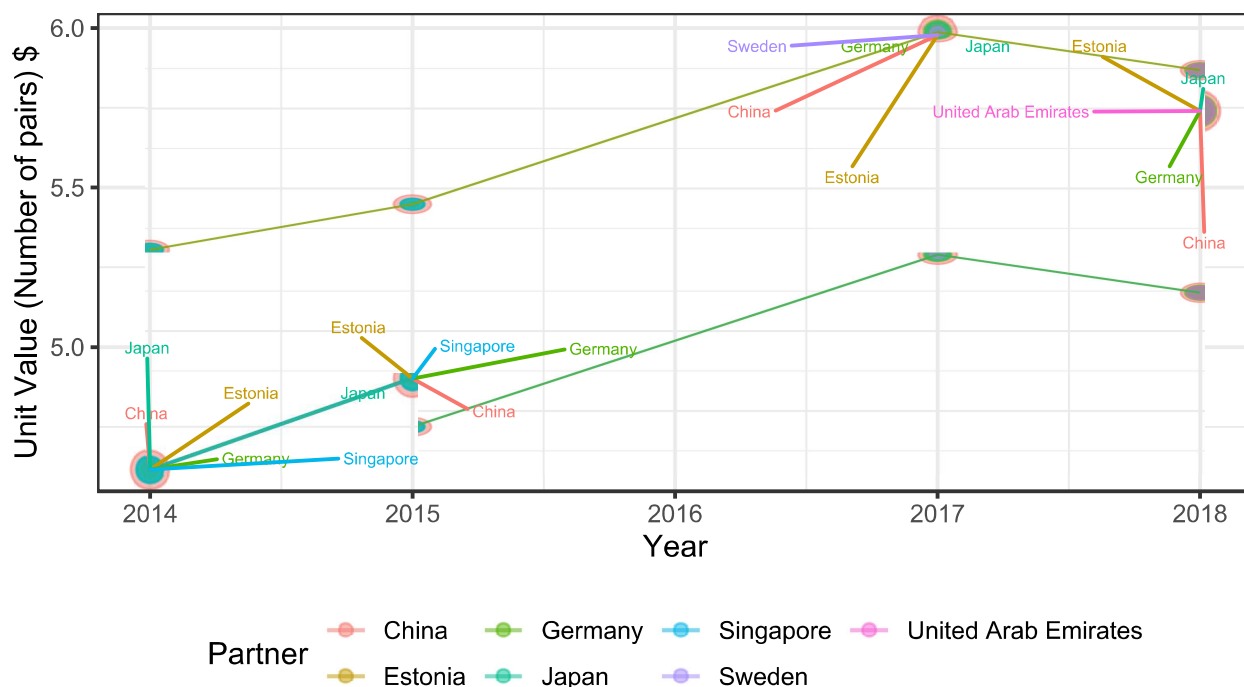


Figure 3.9: Unit values of ITCHS 950640 (Table-Tennis) in Indian imports across countries

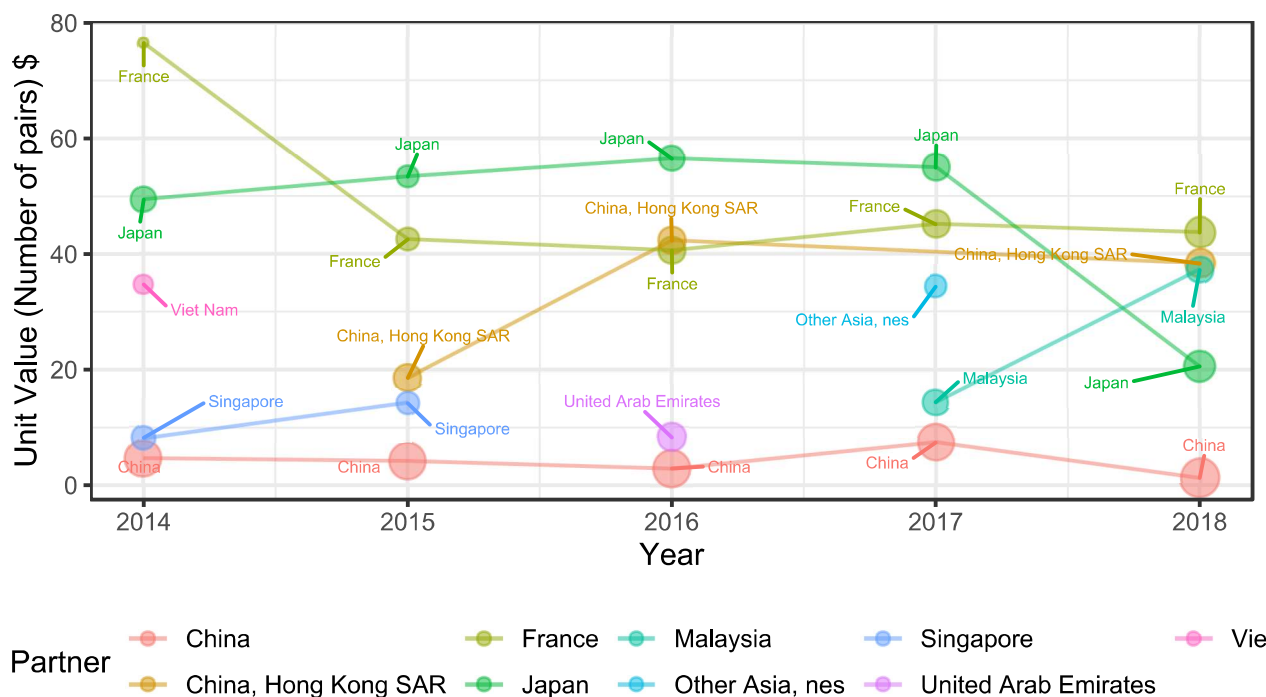


Figure 3.10: Unit values of ITCHS 950651 (Lawn tennis rackets) in Indian imports across countries



While imports of items under ITCHS 950659 from China are stable and the cheapest, as shown in Figure 3.11, in 2018 the unit value for Japanese imports fell steeply from \$26.88 in 2017 to \$5.65 in 2018 with the volume of imports increasing from 33,204 to 11,18,937 in the respective years. However, China still dominates the market share with an import volume of 1,05,07,297 at \$1.51 and 1,21,18,017 at \$0.80 in 2017 and 2018 respectively.

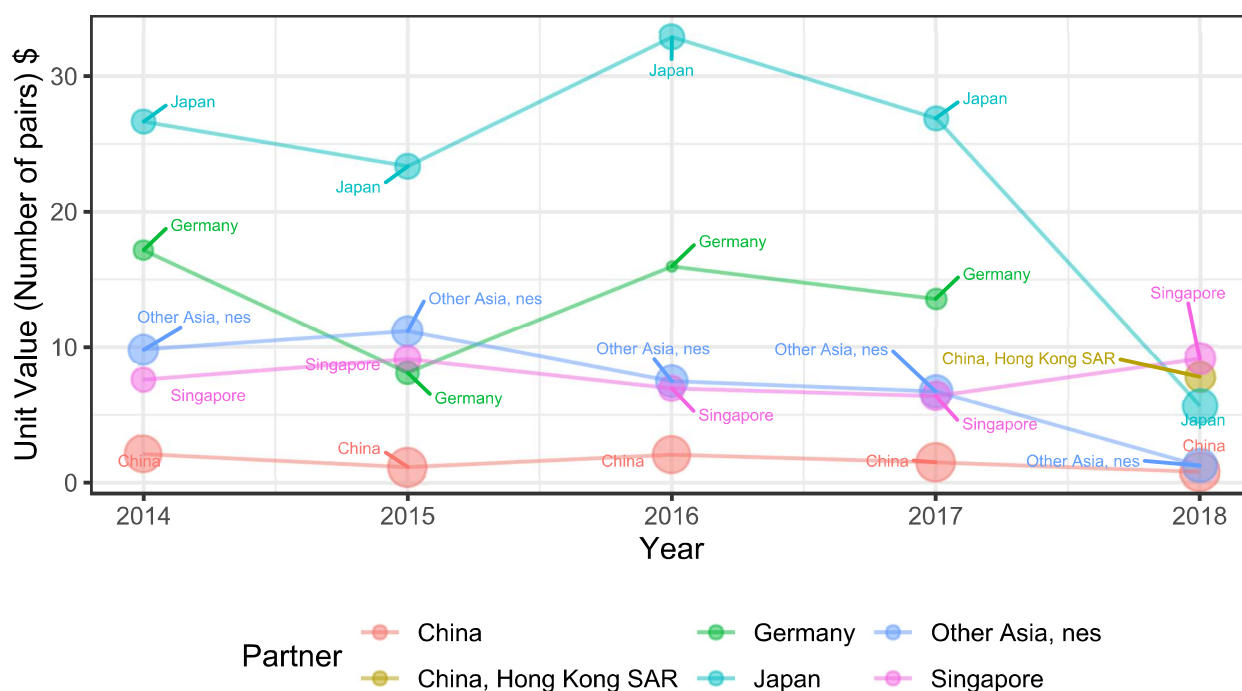


Figure 3.11: Unit values of ITCHS 950659 (Squash or racketball badminton rackets) in Indian imports across countries

#### f Balls, other than golf balls and table-tennis balls (950661 – 950669)

With reference to Figure 3.12, even though the unit value for imports from China is less than imports from Thailand for items under ITCHS 950661, in terms of volume, Thailand's imports (17,85,609 in 2018) surpass Chinese imports (16,05,596 in 2018). There is a decrease in the prices of imports from both Thailand and China in 2018 which may be due to an increase in import volume.

Since the composition of this broad category cannot be determined, it is difficult to conclude anything on the unit prices of items under ITCHS 950662. However, as evident from Figure 3.13, the prices of Chinese imports are consistently lower than others and it dominates the market share also. The same can be said about ITCHS 950669, another category consisting of various kinds of balls, by looking at Figure 3.14.



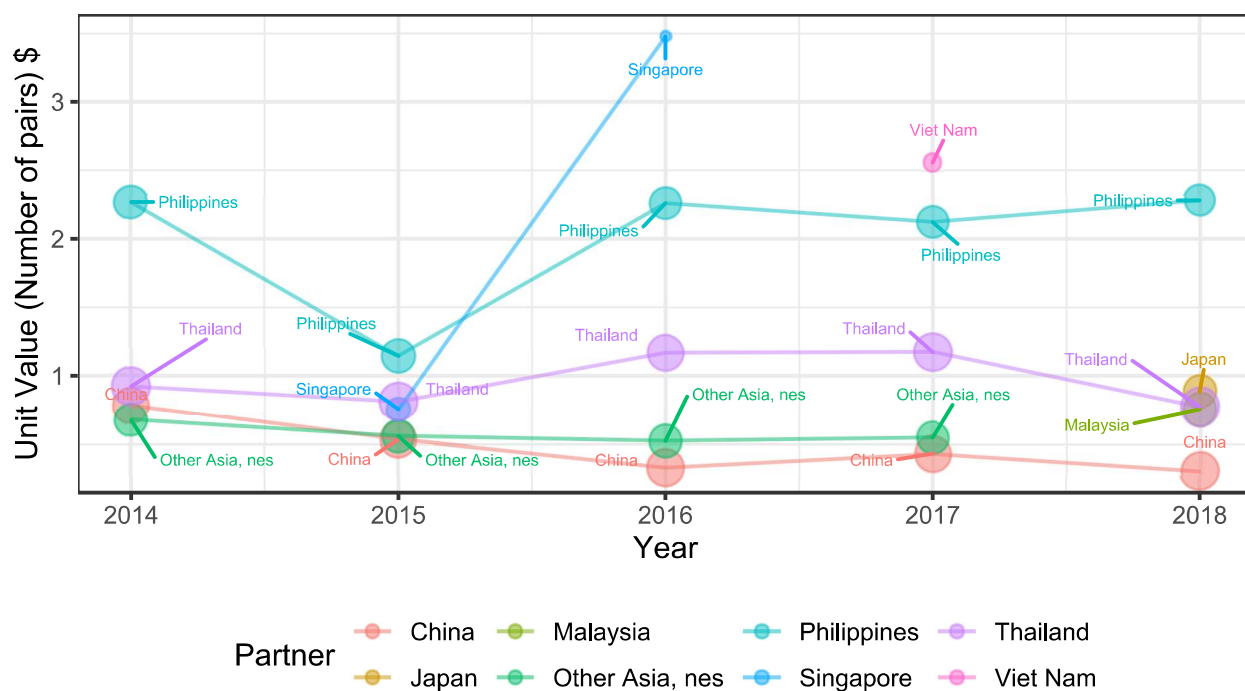


Figure 3.12: Unit values of ITCHS 950661 (Lawn-tennis balls) in Indian imports across countries

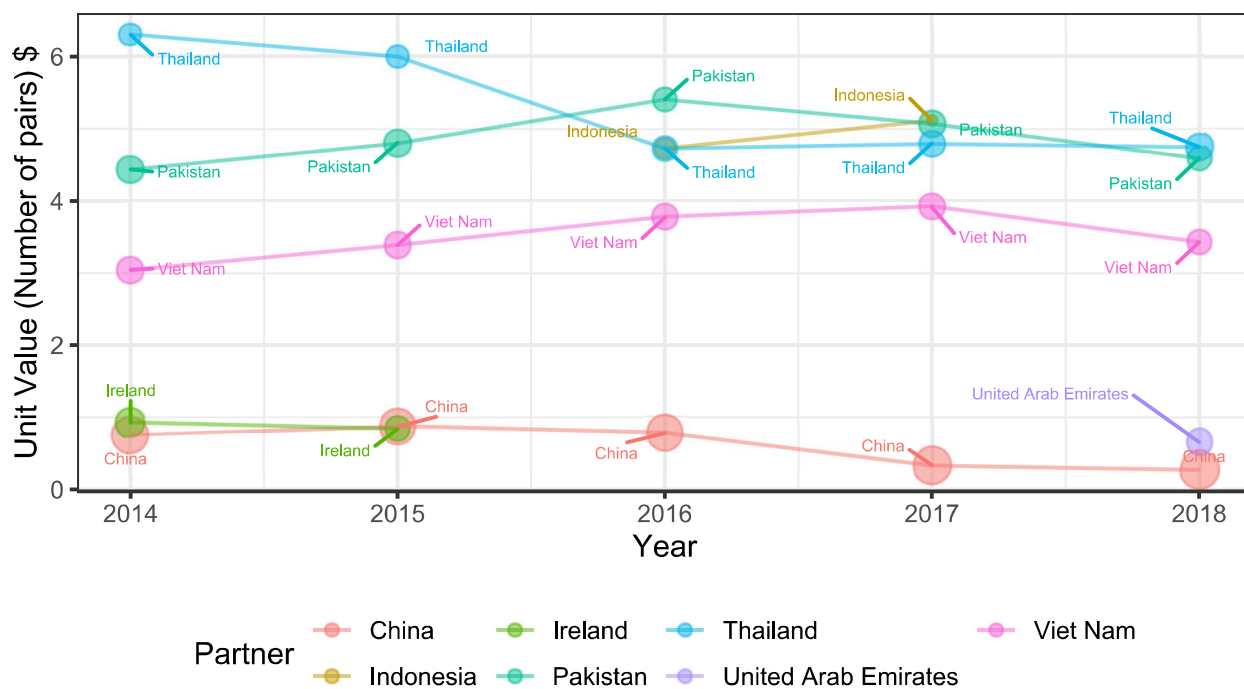


Figure 3.13: Unit values of ITCHS 950662 (Inflatable balls) in Indian imports across countries

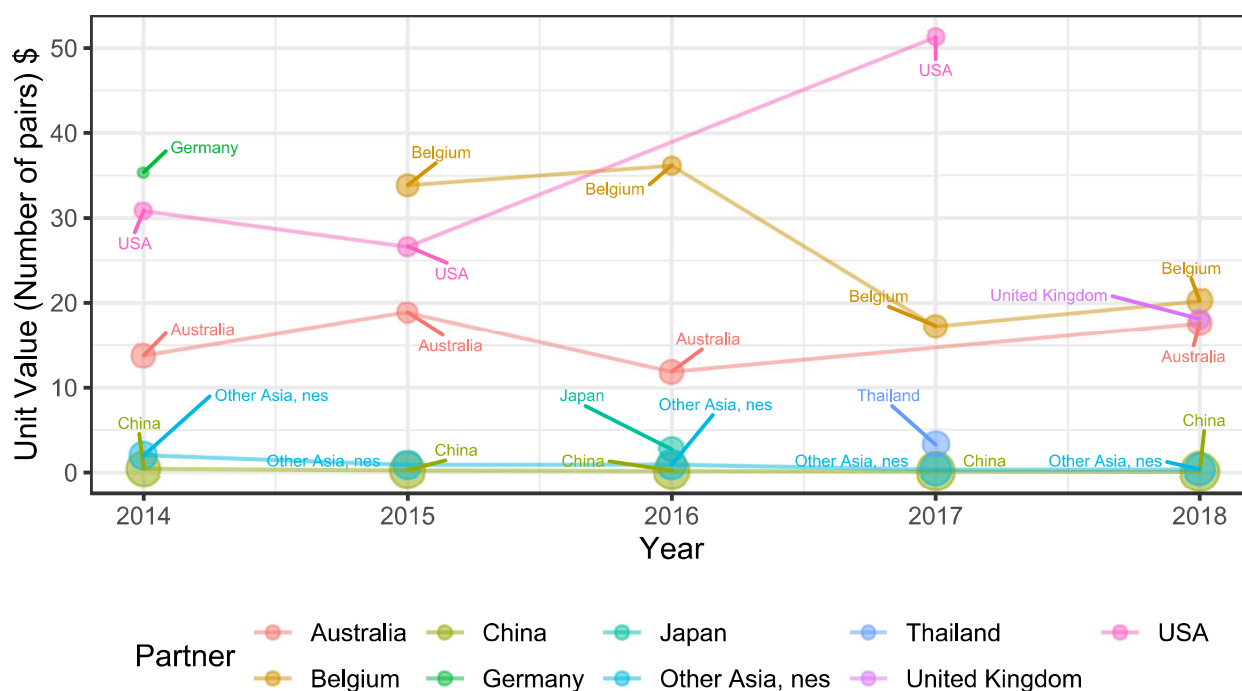


Figure 3.14: Unit values of ITCHS 950669 (Balls – Other) in Indian imports across countries

### g Ice skates, roller skates and skating boots (950670)

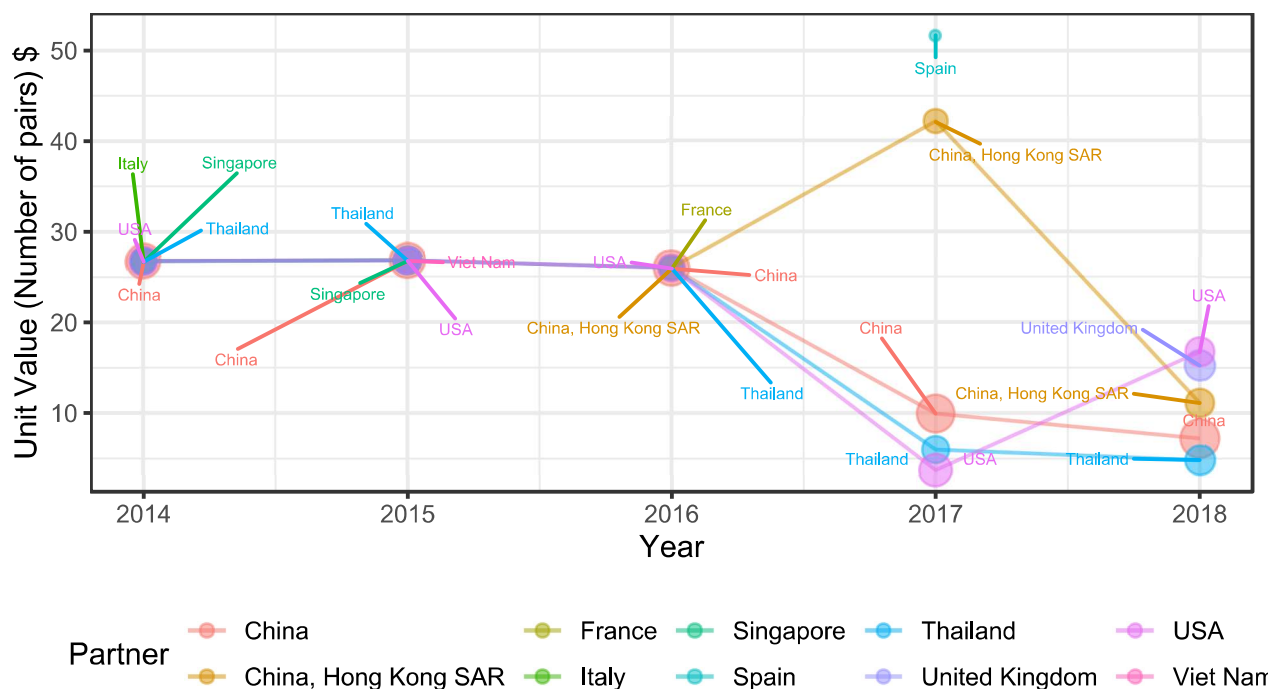


Figure 3.15: Unit values of ITCHS 950670 (Ice and roller skates) in Indian imports across countries

As shown in the previous chapter, India's import unit value for ITCHS 950670 declined steeply in 2017 and 2018. This is due to the simultaneous fall in import prices from all countries in 2017, which is evident from Figure 3.15. Even though some of the prices rose in 2018, the import share of the relatively expensive goods fell and was substituted by increasing imports from China and Thailand making the overall unit value for India an outlier.

## h Physical exercise, gymnasium and athletics equipment (950691)

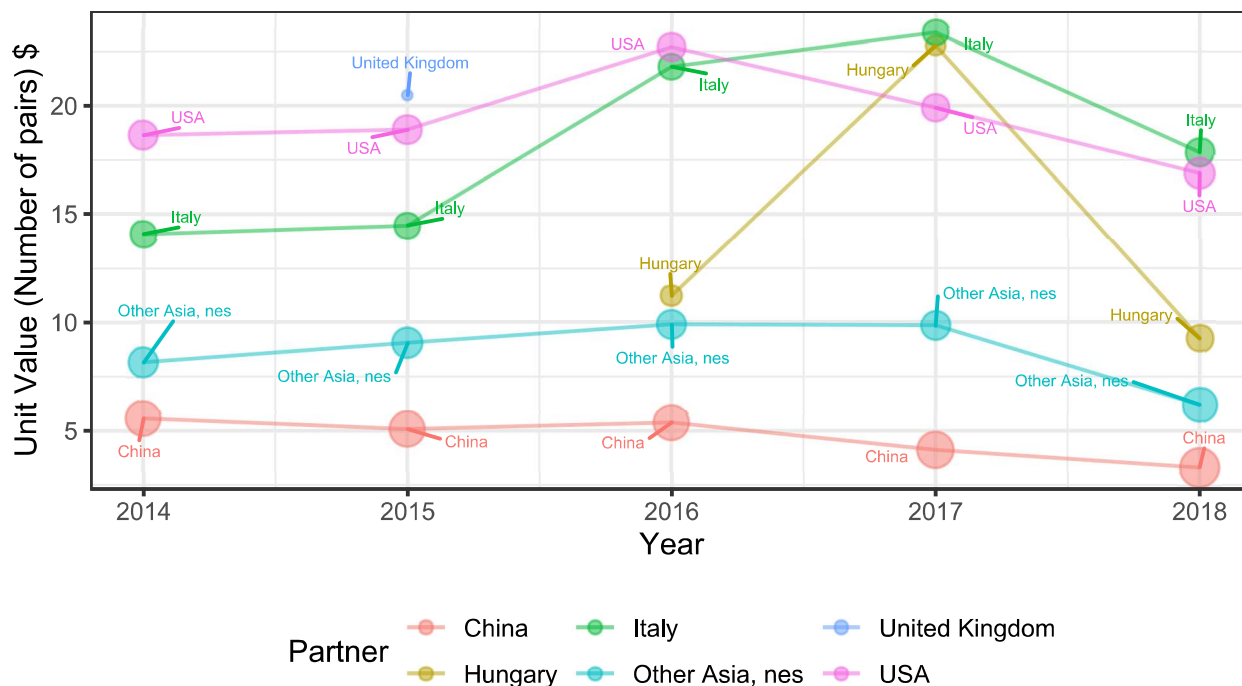


Figure 3.16: Unit values of ITCHS 950691 (Equipment for boxing and athletics) in Indian imports across countries

The steep decline in unit value for items under ITCHS 950691 for India after 2016, as seen in Chapter 2, may be attributed to the fall in prices of Chinese imports. With reference to Figure 3.16, the volume of Chinese imports increased from 82,57,786 units at \$4.13 in 2017 to 2,81,14,043 units at \$3.31 in 2018. However, in 2018, there was a decrease in import unit values for all partners in 2018. This needs further investigation.

## i Equipment nes for sports, swimming and paddling pools (950699)

ITCHS 950699 consists of items not specified in the previous categories and, hence, is a fairly diverse group. Figure 3.17 is given for reference.

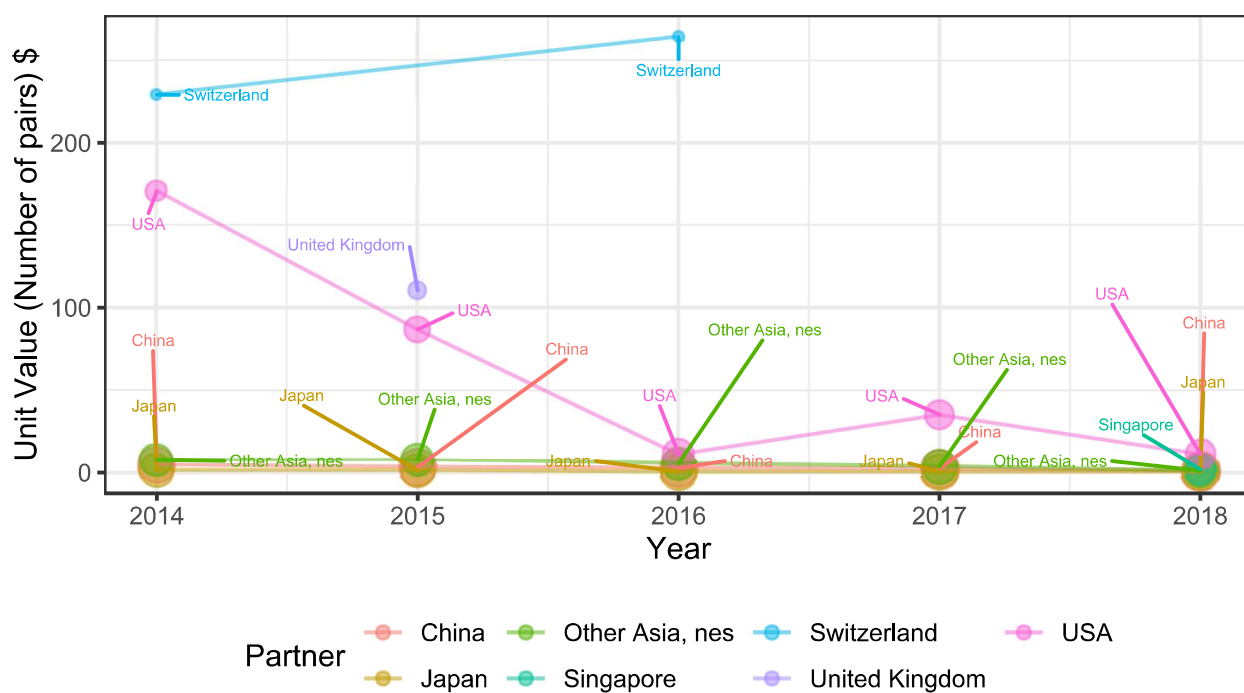


Figure 3.17: Unit values of ITCHS 950699 (Equipment nes for sports, swimming and paddling pools) in Indian imports across countries

## Chapter 4

### Analysis of Indian imports across partner countries and ports

While the previous analysis gave an insight on the important trading partners and the differences in unit rates across partners, this chapter will focus on whether there exist any discrepancies in unit rates across various ports in India. For this, the following figures use bar plots to represent average unit rates for each trading partner but clustered according to ports. The ports are denoted by their codes, the list for which can be found in the Appendix. The clustering of data according to the ports helps us visualize how many trading partners are involved at each port for a single commodity at the 8-digit classification. It also helps us understand whether the prices of imports from the same trading partner are similar or different across ports. Reasons such as favorable trading routes may influence the unit rates but that may not always be the case. Cases, where there are significant disparities, need further investigation. The x-axis represents trading partners grouped according to ports while the y-axis represents average unit rates using a logarithm scale. The visualization is represented for three years; 2017, 2018 and 2019; stacked below each graph.

#### **a Snow-skis and other snow-ski equipment (95061100 – 95061900)**

As per Figure 4.1 on page 37, we can see that the average unit rate for ITCHS 95061100 is unusually low for ports Chennai Sea (201)<sup>5</sup> and Mumbai Sea (401). The goods imported in these ports are from China and even though they have a reputation for cheaper imports, we can see that the average unit rate for Chinese imports in the rest of the ports in the country is significantly higher. The highest unit rate for the Chinese imports during this period was INR 13,854 at Nhava Sheva Sea port in 2017 while the lowest was INR 17 at Mumbai Sea port in 2018. Even if one accounts for the quantity imported, it does not play a significant role in explaining the variability in unit rates. The average unit rate for Chinese imports was also lower in 2018 for Delhi ICD port (609) compared to the other years and this cannot be explained by the import volume either. According to the DGCI&S data, in 2018 the average unit rate and the import volume were INR145 and 444 units respectively, whereas, in 2019 the same was INR 223 and 2086 units. Looking at the Chinese imports in 2018 at Nhava Sheva Sea port (476), the average unit rate and volume were INR 1282 and 2848 units respectively. Hence, there lies a significant discrepancy in the reported rates of Chinese imports at different ports for commodity 95061100. The reported value of the USA imports at Delhi Airport (602) in 2017 is INR 117 and is comparatively lower than other values as well.

As per Figure 4.2 on page 38, the average unit rate for ITCHS 95061200 is unusually low for Chinese imports at Nhava Sheva Sea port (476) in 2018. The reported value and volume are INR 206 and 300 units respectively in 2018 and INR 1334 and 4669 units in 2017. The second-lowest value

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5 The 3 digit numbers next to port names denote the respective port codes, also available in the Appendix.

reported is of French imports via Delhi Airport (602) in 2018 with a reported average unit rate of INR 1001.

ITCHS 95061900 consists of a broad category of other ski-related commodities and making comparisons among different import unit rates will not be accurate. Despite the limitations, Figure 4.3 on page 38 does not show extreme variations. However, moderate variations in import values of some Chinese imports exist.

#### **b Water-skis, surf-boards, sailboards and other water-sport equipment (95062100 – 95062900)**

According to Figure 4.4 on page 39, items from China for commodity ITCHS 95062100 at Mumbai Airport (483) in 2018 have a reported import value of INR 76 which is very less than the other imports. However, there are few data points to arrive at a conclusive report.

Even though there is extreme variation in the average unit rate of ITCHS 95062900 as represented by Figure 4.5 on page 40, making any comparison among different import unit rates is not accurate due to the broad nature of this group consisting of other water sports-related equipment.

#### **c Golf clubs and other golf equipment (95063100 – 95063900)**

Golf is an expensive sport and it is the general expectation that it will be mostly played by the richer sections of the society and, therefore, people who can afford the high prices. If there are low reported unit rates, it should be investigated further. As represented by Figure 4.6 on page 41, the average unit rate for the Chinese imports of commodity 95063100 at the Chennai Airport (242) in 2019 is reportedly cheaper in comparison to the other imports. The average value reported was INR 14 while the average unit rate for all Chinese imports during these three years was INR 4,164. The other ports which reported low values are Kolkata Sea port (101), ICD Bangalore (250), Bangalore Airport (244), and Nhava Sheva Sea (476) with values less than INR 800. Thus, there lies a significant variation in the prices of Chinese imports. Apart from that, CFS Patparganj port (632) reported a low unit value of INR 117 for imports from the United Kingdom in 2019.

For commodity 95063200, Chinese imports are relatively cheaper overall than other imports. According to Figure 4.7 on page 41, the lowest average unit value was reported by Kolkata Sea port (101) with a value of INR 2.41, while the second and third lowest values are of Delhi ICD (609) and Chennai Sea port (201) with the respective values of INR 3.36 and INR 4.44. Even though there are high reported values as well, we may only attribute it to quality differences.

Categorically 95063900 is very broad and, according to Figure 4.8 on page 42, the average unit value ranges from INR 51 for Chinese imports at Nhava Sheva Sea port (476) to INR 14787 for imports from Hong Kong at Hyderabad Airport (246). Thus, not much can be inferred about this commodity group.

#### **d Articles and equipment for table-tennis (95064000)**

As per the figure for commodity 95064000, ICD Kanech Inlogistics (1) reports a unit value of INR 4.19 for US imports in 2019, which is only second-lowest to Chinese imports in three years, valued at INR 4.12 at Kolkata Seaport (101) in 2018. In fact, in 2019, the US imports at ICD Kanech Inlogistics recorded the lowest unit value whereas the second-lowest value was INR 11.75 for Chinese imports at Kolkata Sea port (101). Looking at the overall picture in Figure 4.9 on page 43, there also exists a significant variation in the prices of all imports but this may be attributed to differences in quality, and as mentioned before, table-tennis is a relatively accessible sport for all sections of the society due to the availability of affordable equipment.

#### **e Tennis, badminton or similar rackets, whether or not strung (95065100 – 95065990)**

For commodities in 95065100, a lot of quality differences are available in the market and, hence, we can expect to see the prices vary a lot as well. According to Figure 4.10 on page 44, we do see quite a variation in the average unit values of Chinese imports. In fact, Chinese imports range from INR 14.50 at Chennai Sea port (201) in 2017 to INR 4772 at Delhi Airport (602) in 2018. Due to the existence of significant quality differences, not much can be inferred regarding the import unit rates.

The same can be stated regarding ITCHS 95065910 and 95065990 as well. Not only is it difficult to interpret when significant quality differences exist, but these two groups are broad in nature, which adds to the variation in prices. For reference, see Figures 4.11 and 4.12 on pages 45 and 46 respectively.

#### **f Balls, other than golf balls and table-tennis balls (95066100 – 95066990)**

For imports in 95066100, some low unit values are highlighted. As per Figure 4.13 on page 47, we can see that Mumbai Sea port (401) has consistent low unit rates of INR 2.95, INR 3.93, and INR 8.01 in the years 2017, 2018 and 2019 respectively. ICD Faridabad (643) also reported a low value of INR 3.56 in 2018 and Chennai Sea (201) also has reported moderately-low values ranging from INR 13.73 to INR 14.98 during the three years. Some values reported by Cochin Sea port (301) also hover around similar ranges. While all these imports are from China, the average unit rate for Chinese imports in these three years overall is INR 38.80. Even though quality differences exist, extremely low values might need further investigation.

A similar pattern can be observed for 95066210 as well. Figure 4.14 on page 48 shows high variability in the unit values of Chinese imports throughout. While the average unit rate for Chinese imports is INR 169, there are some extremely low reported unit values. Average unit rates as low as INR 2.42 and INR 5.67 are reported in Kolkata Sea port (101) and Mumbai Sea port (401) respectively. The volume of trade in a year cannot explain the variability in prices and, therefore, the possibility of higher trading volumes leading to lower average unit prices is ruled out. Quality might play an important role in determining the low values but further investigation is needed to arrive at a conclusive result.

For commodity 95066220, the average unit value of Chinese imports in the year 2019 is INR 112. However, here we find that Kolkata Sea port (101) and Mumbai Sea port (401) have reported average unit rates of INR 2.08 and INR 3.64 respectively. For commodity 95066230 also, the average unit rate for Chinese imports in 2019 is INR 97<sup>6</sup> and both Kolkata Sea port and Mumbai Sea port recorded low rates of INR 9.31 and INR 9.28 respectively. Thus, these two ports appear to report consistently lower unit rates than the average values. For reference, see figures 4.15 and 4.16 on pages 49-50.

According to Figure 4.17 on page 51, the unit value rates for items in ITCHS 95066290 have extreme variability, especially in the case of Chinese imports. However, since this category consists of a broad spectrum of other inflatable balls, a conclusive analysis is not possible at the 8-digit classification level.

According to Figure 4.18 on page 52, for ITCHS 95066910, imports from Pakistan were the cheapest until 2018. However, there were no imports from Pakistan in 2019 and the average unit rates for Chinese imports increased from INR 118.45 in 2018 to INR 224 and INR 1926 in 2019 in Delhi ICD and Delhi Airport respectively.

Items under ITCHS 95066920, according to Figure 4.19, does not show too much variation and, thus, cannot be commented upon further.

The interesting thing to note in Figure 4.20 (for ITCHS 95066930) is that we see low reported values for Mumbai Sea port (401) once again in 2019. The average unit rate for Chinese imports in 2019 is INR 30 whereas the average reported unit rate for Mumbai Sea port is INR 4.27. This is a frequently occurring pattern that we have noticed. Nhava Sheva Sea port (476) has also reported a low unit rate of INR 4.53 for Chinese imports in 2018.

Figure 4.21 on page 53 for commodity 95066940 also shows some variability with Mumbai Sea port (401) reporting the lowest average unit values in 2018 and 2019.

Commodity 95066990 includes a broad spectrum of goods and, therefore, is being excluded for analysis. However, Figure 4.22 on page 54 for reference is provided.

### **g Ice skates, roller skates and skating boots (95067000)**

For commodities classified under 95067000, if we take five of the lowest unit values reported in 2019 port-wise, we get the values of INR 3.10, INR 12.23, INR 25.72, INR 37.06 and INR 40 reported by Cochin Sea port (301), Mumbai Sea port (401), CFS Patparganj (632), Kolkata Sea (101) and ICD Faridabad (643); ports which have been mentioned earlier in this report. While all these were Chinese imports, in the same year, ports, such as Nhava Sheva Sea port (476) and Chennai Sea (201) have imported from China at an average unit value of INR 122.11 and INR 131.91 respectively. Therefore, there exists a lot of variabilities which needs to be investigated further. Refer to Figure 4.23 on page 55 for further details.

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6 Some outliers have been excluded while calculating this value to make the average value more appropriate.



## h Physical exercise, gymnasium and athletics equipment (95069110 – 95069190)

For commodity 95069110, as evident from Figure 4.24 on page 56, ICD Bangalore has a reported value of INR 48.79, which is significantly lower than other values. Apart from this, there are no significant discrepancies in the figure.

Category 95069190 has been excluded from the analysis due to the broad nature of the group, because here ‘Other’, i.e. residual set not covered by ITCHS code 95069110, may include a wide range of diverse items.

## i Equipment nes for sports, swimming and paddling pools (95069910 – 95069990)

The subdivisions under the 950699 classification are broad. Figures 4.25-4.32 on pages 57-62 are given for reference, however, an in-depth analysis is not feasible.

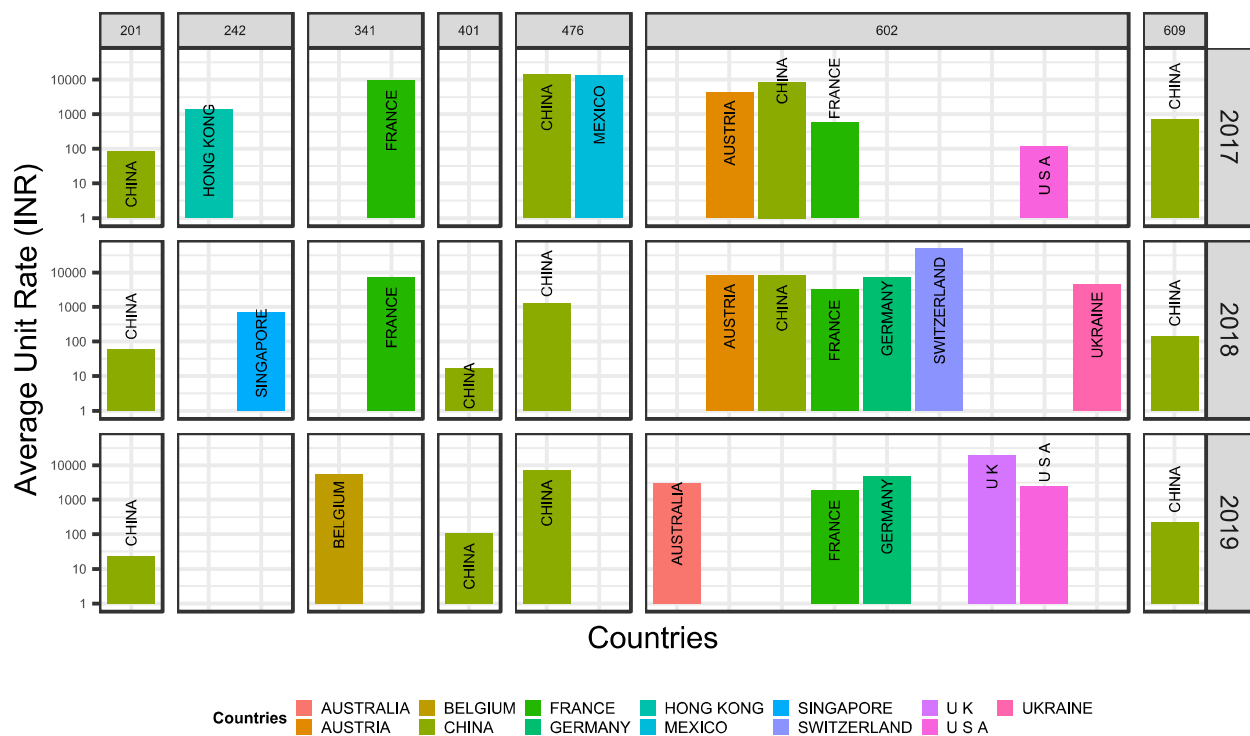


Figure 4.1: Indian import rates of ITCHS 95061100 (Skis) across countries and ports

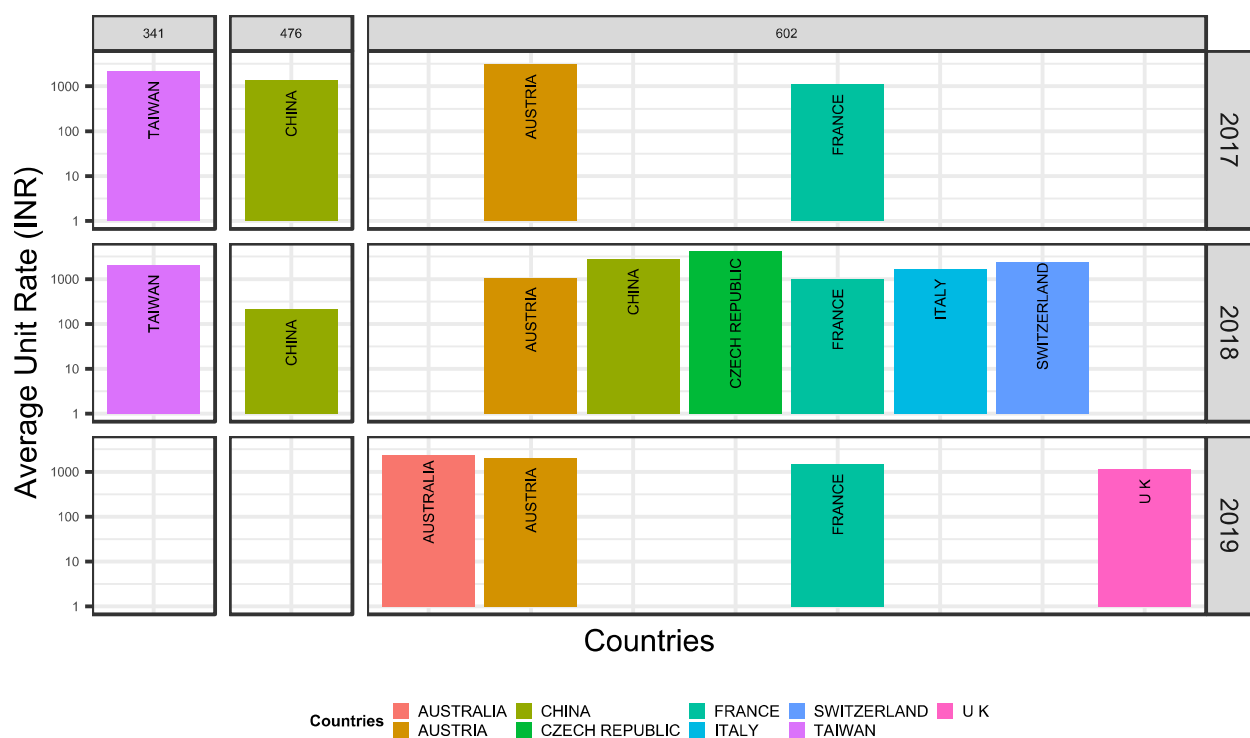


Figure 4.2: Indian import rates of ITCHS 95061200 (Ski-fastenings or ski-bindings) across countries and ports

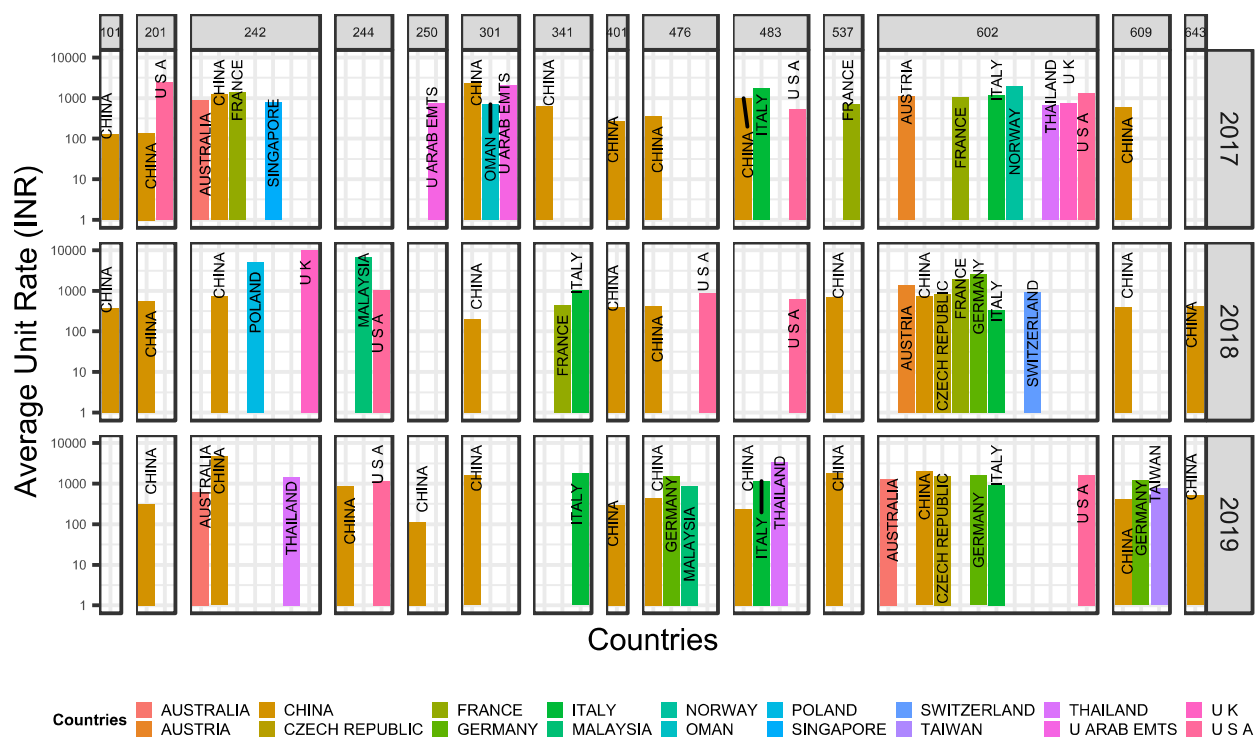


Figure 4.3: Indian import rates of ITCHS 95061900 (Ski - Other) across countries and ports

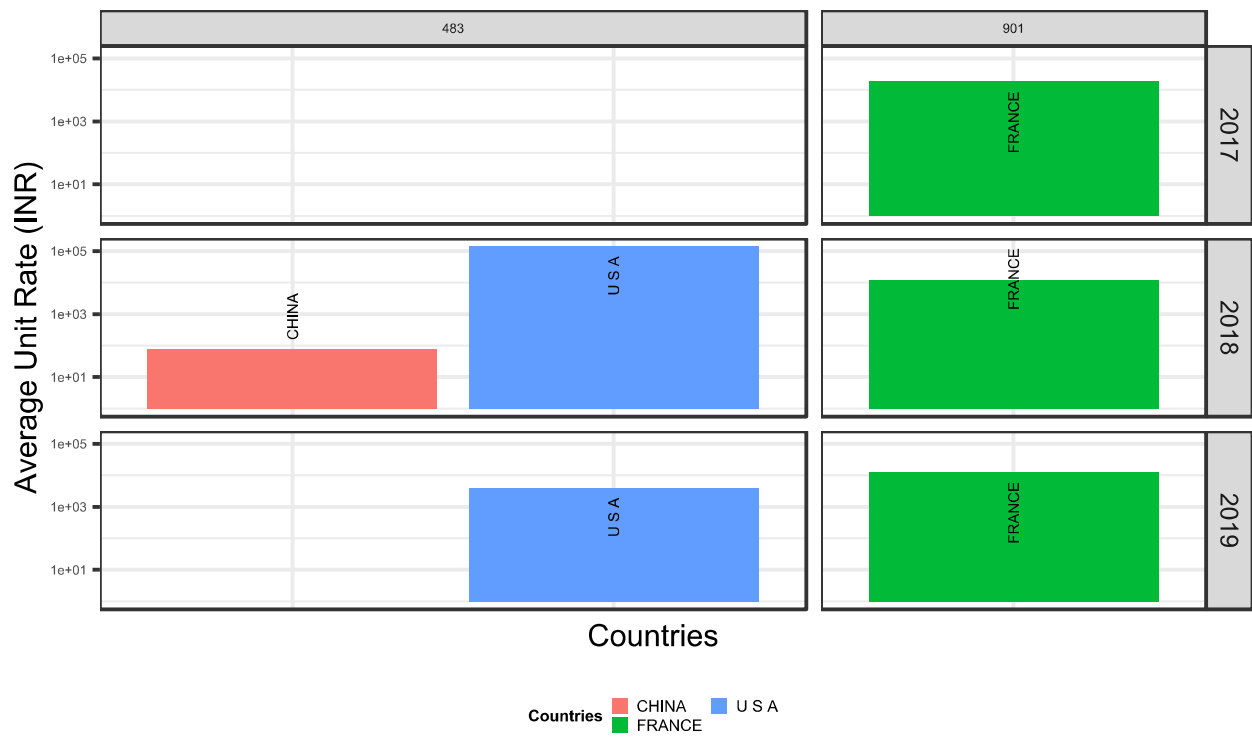
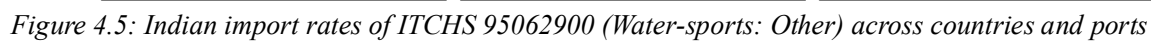


Figure 4.4: Indian import rates of ITCHS 95062100 (Sailboards) across countries and ports



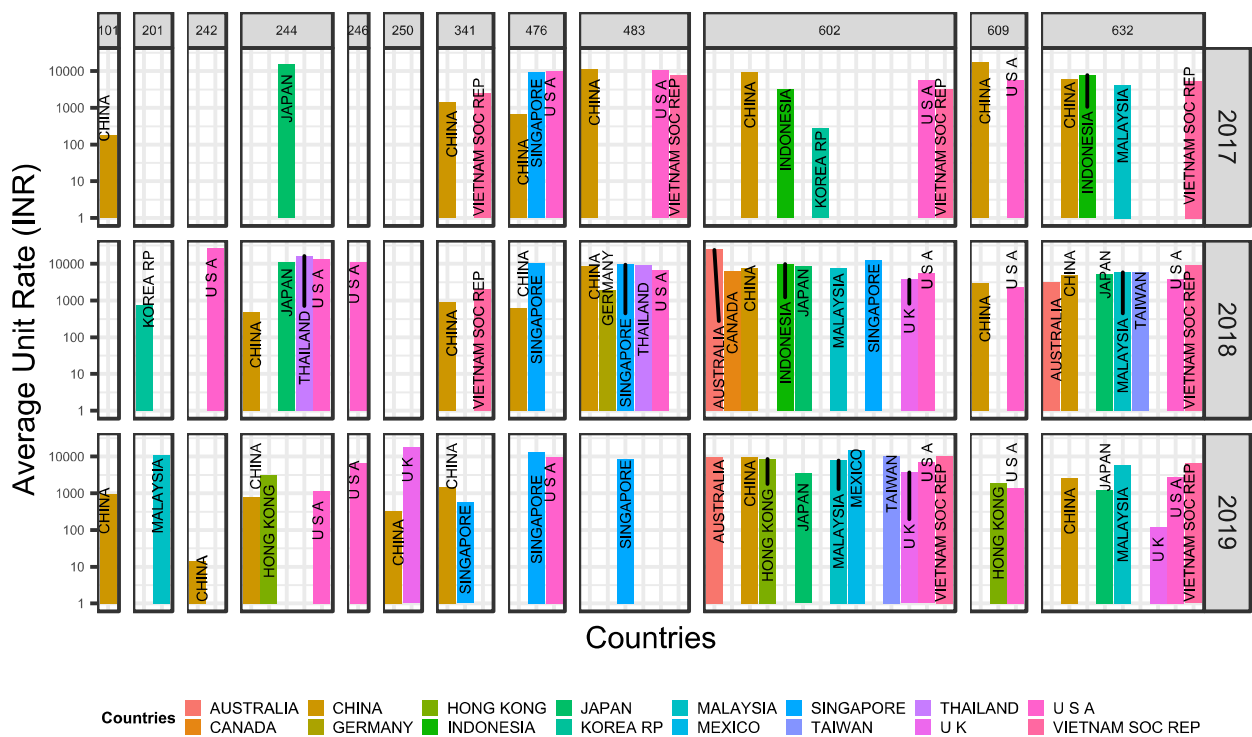


Figure 4.6: Indian import rates of ITCHS 95063100 (Golf Clubs: Complete) across countries and ports

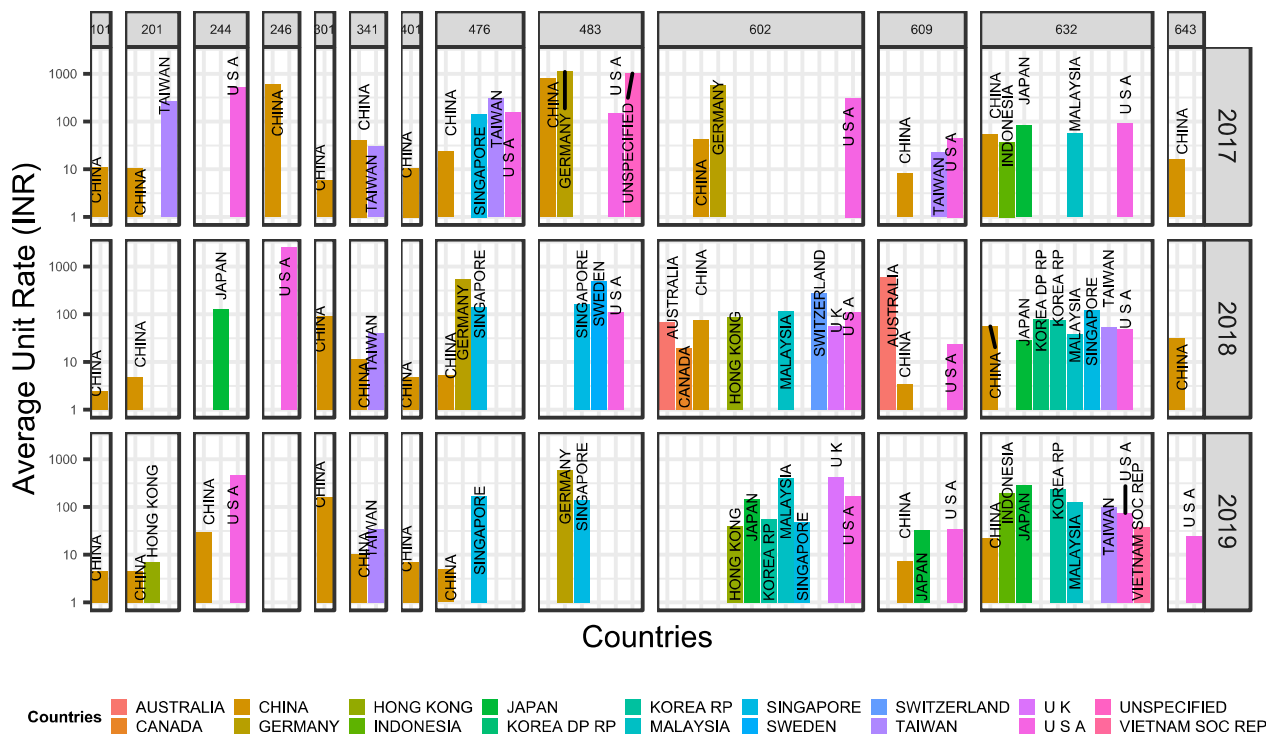


Figure 4.7: Indian import rates of ITCHS 95063200 (Golf balls) across countries and ports

## Chapter 4



Figure 4.8: Indian import rates of ITCHS 95063900 (Golf - Other) across countries and ports



## Chapter 4



Figure 4.10: Indian import rates of ITCHS 95065100 (Lawn tennis rackets) across countries and ports



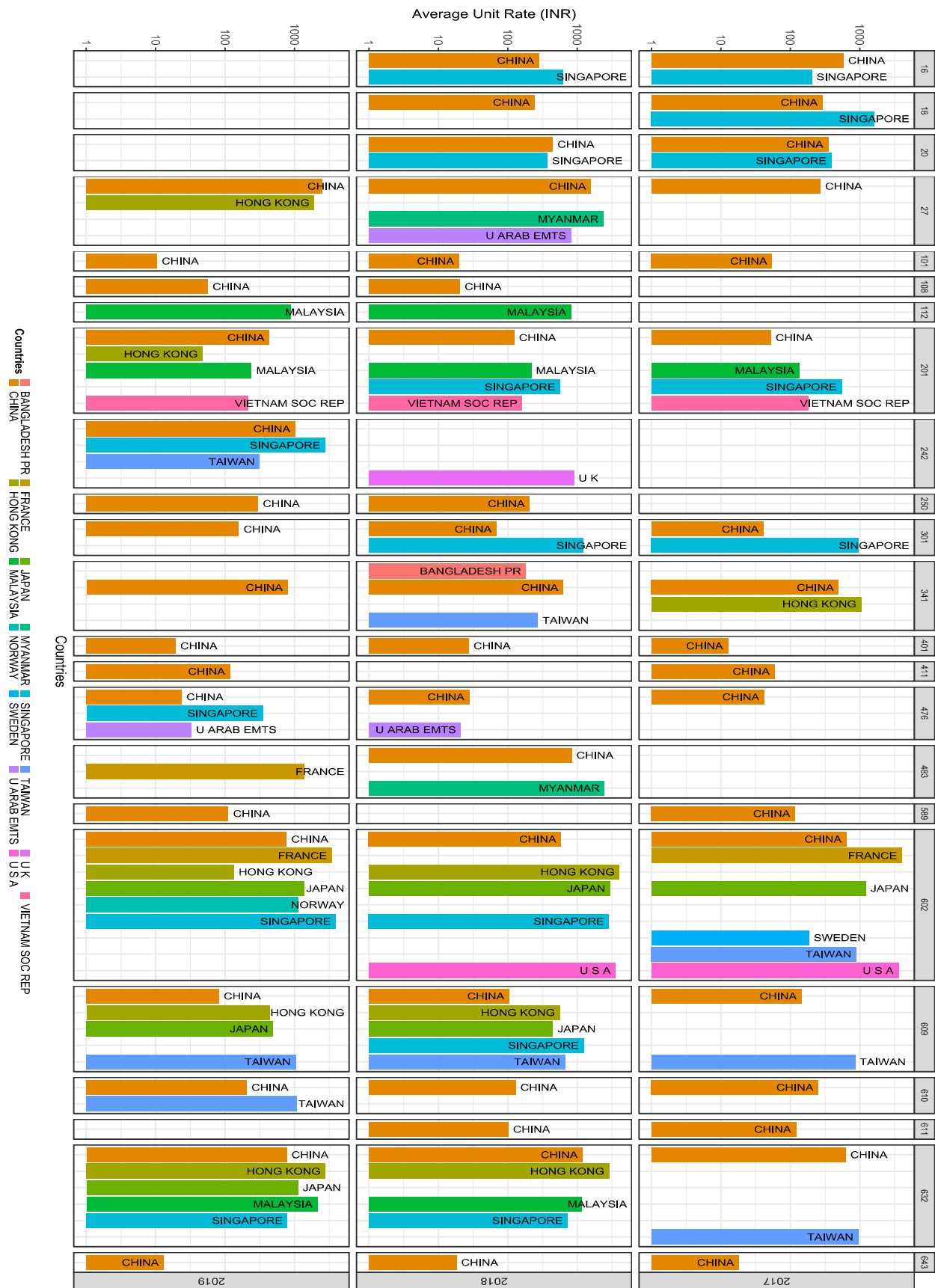


Figure 4.11: Indian import rates of ITCHS 95065910 (Squash or racketball badminton rackets) across countries and ports

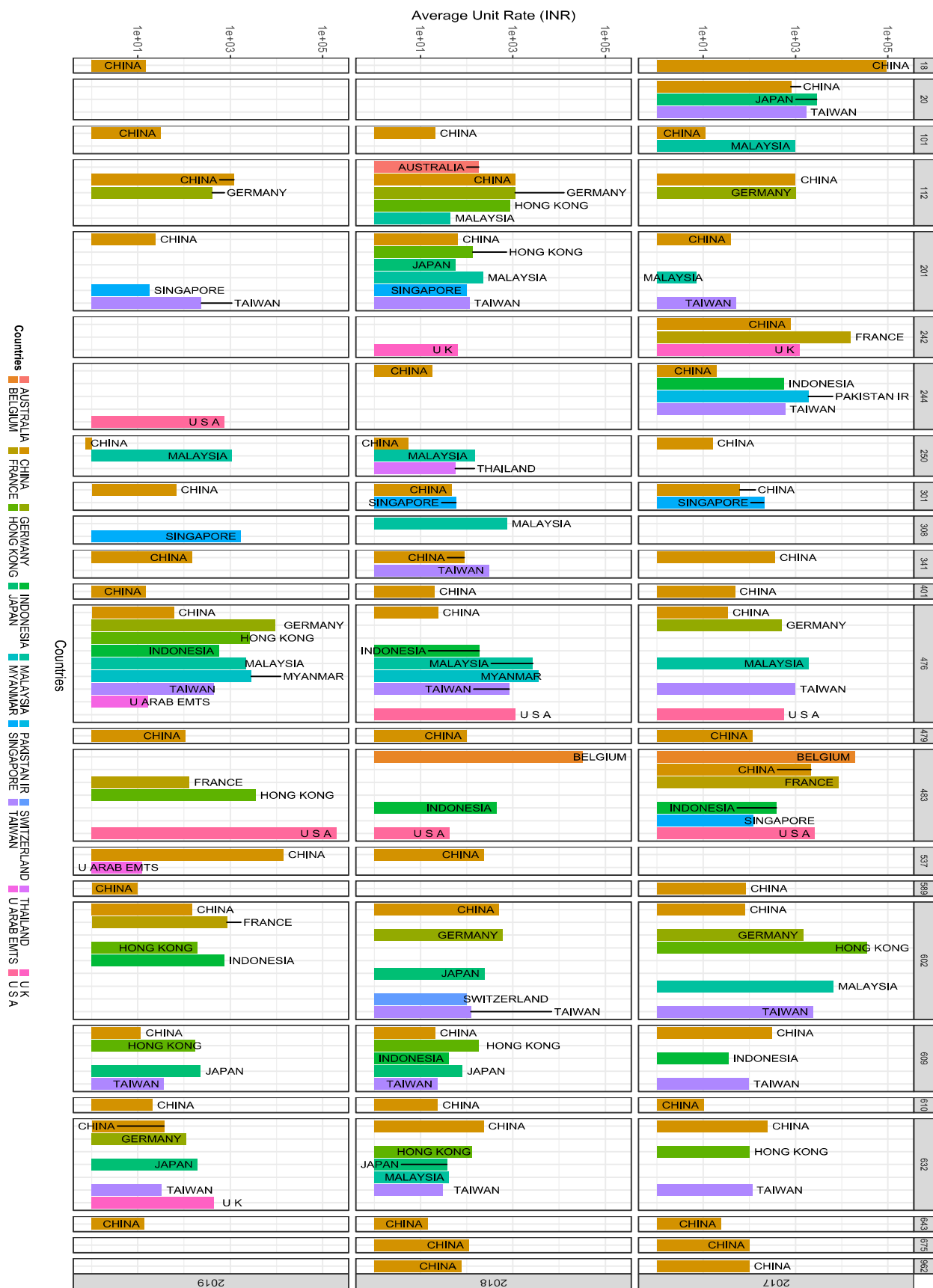


Figure 4.12: Indian import rates of ITCHS 95065990 (Similar racket nes) across countries and ports

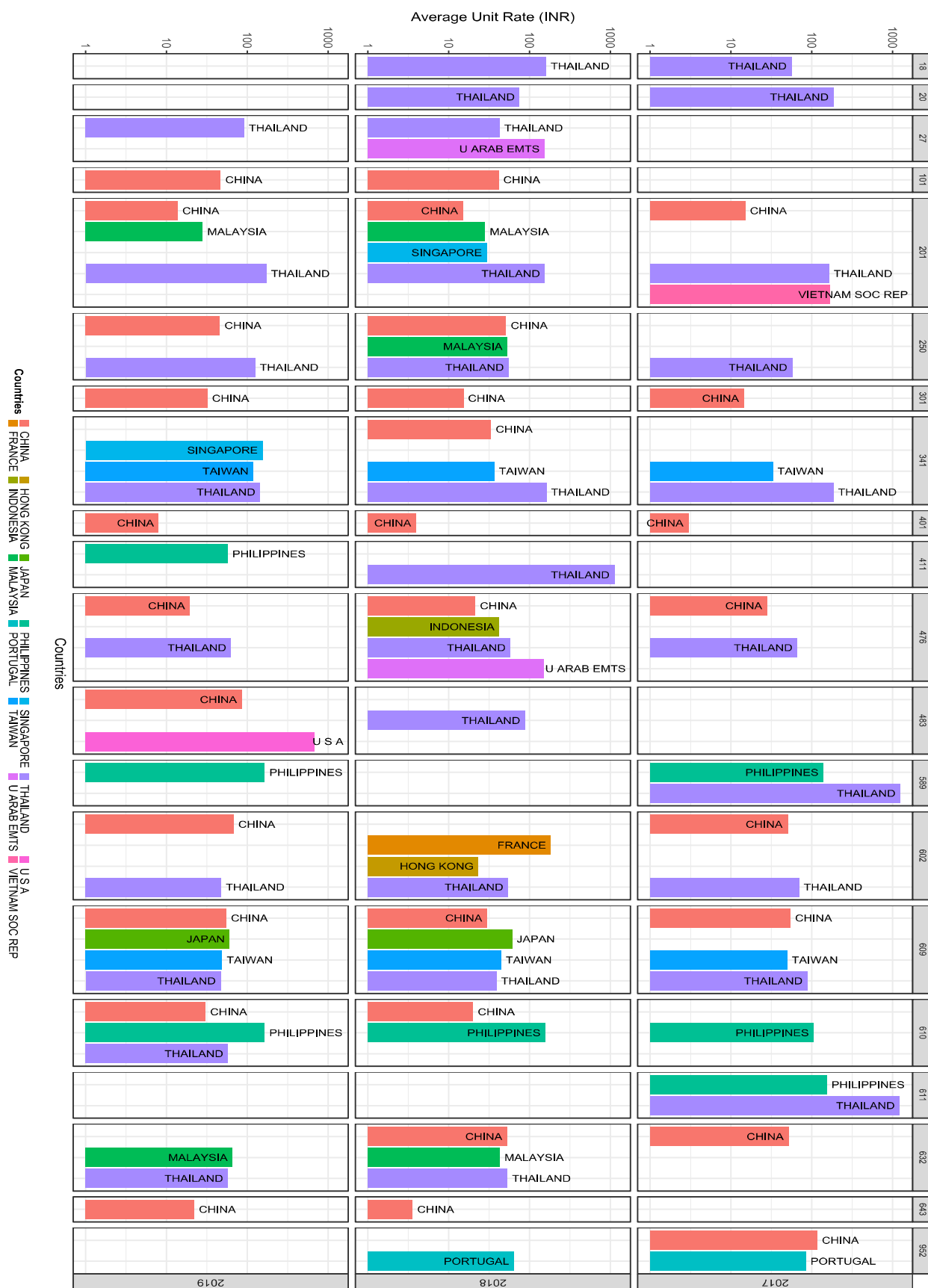


Figure 4.13: Indian import rates of ITCHS 95066100 (Lawn-tennis balls) across countries and ports

## 48

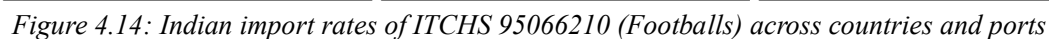




Figure 4.15: Indian import rates of ITCHS 95066220 (Volleyballs) across countries and ports

## Chapter 4

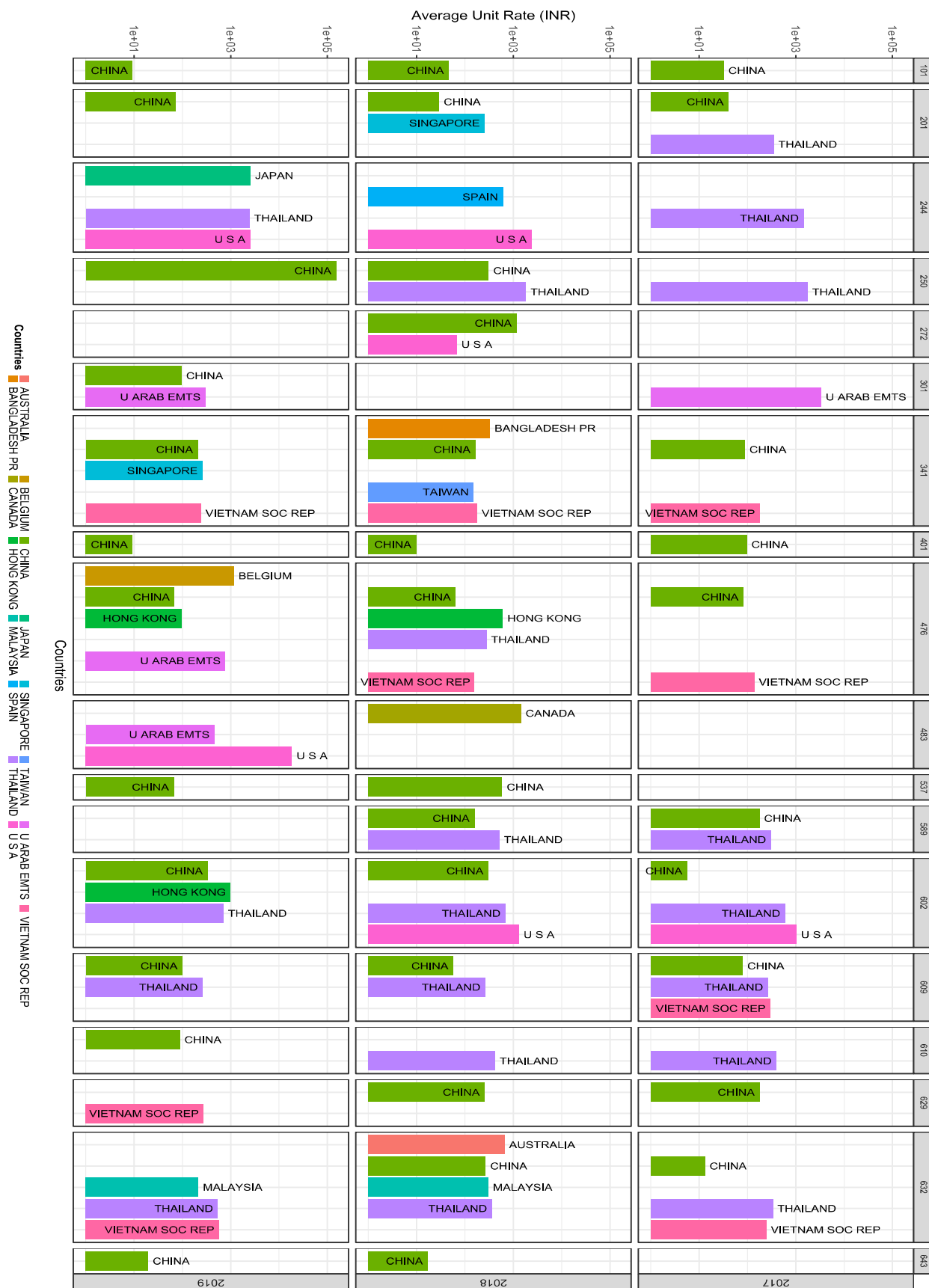


Figure 4.16: Indian import rates of ITCHS 95066230 (Basketballs) across countries and ports

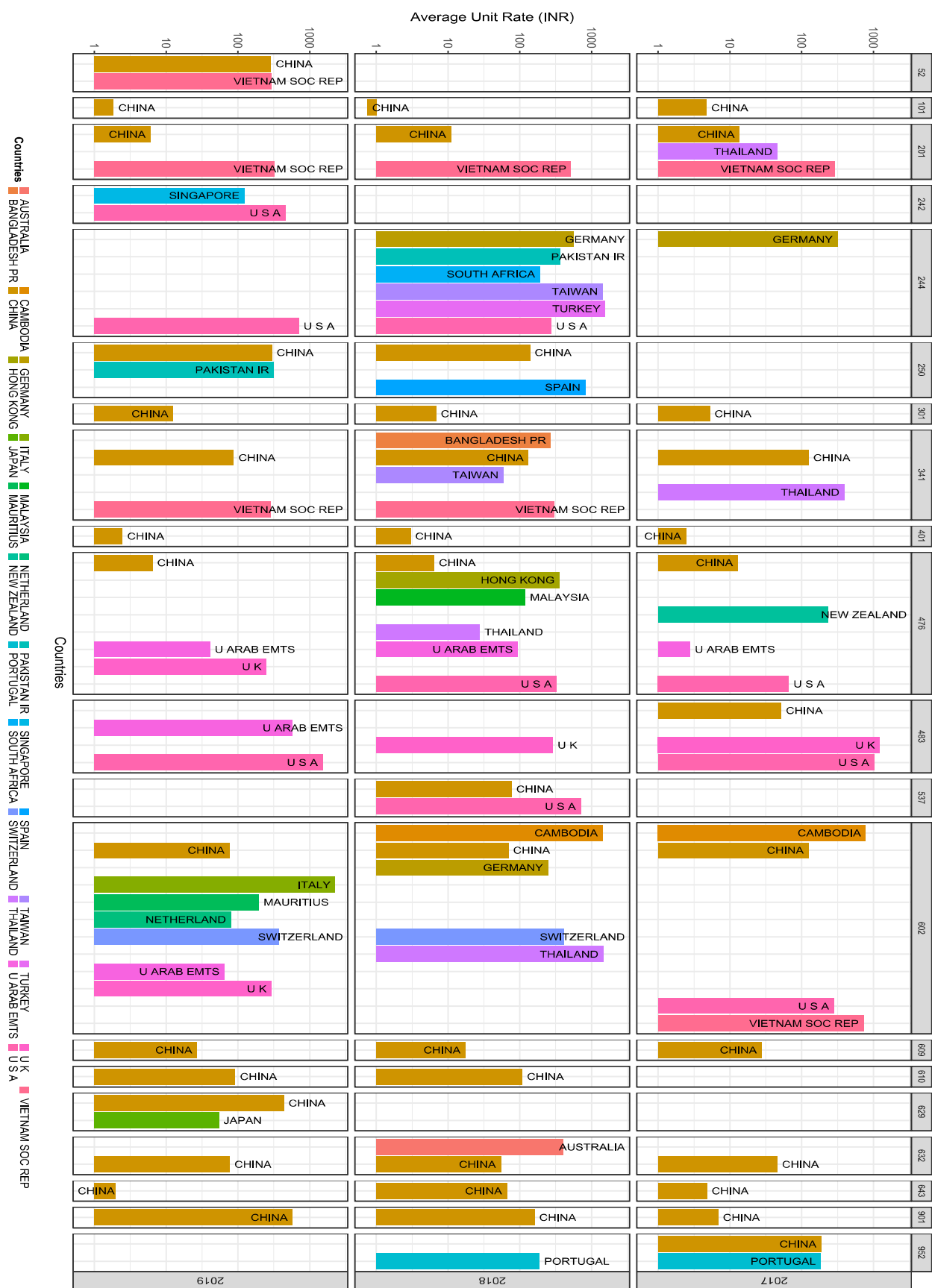


Figure 4.17: Indian import rates of ITCHS 95066290 (Inflatable balls nes) across countries and ports

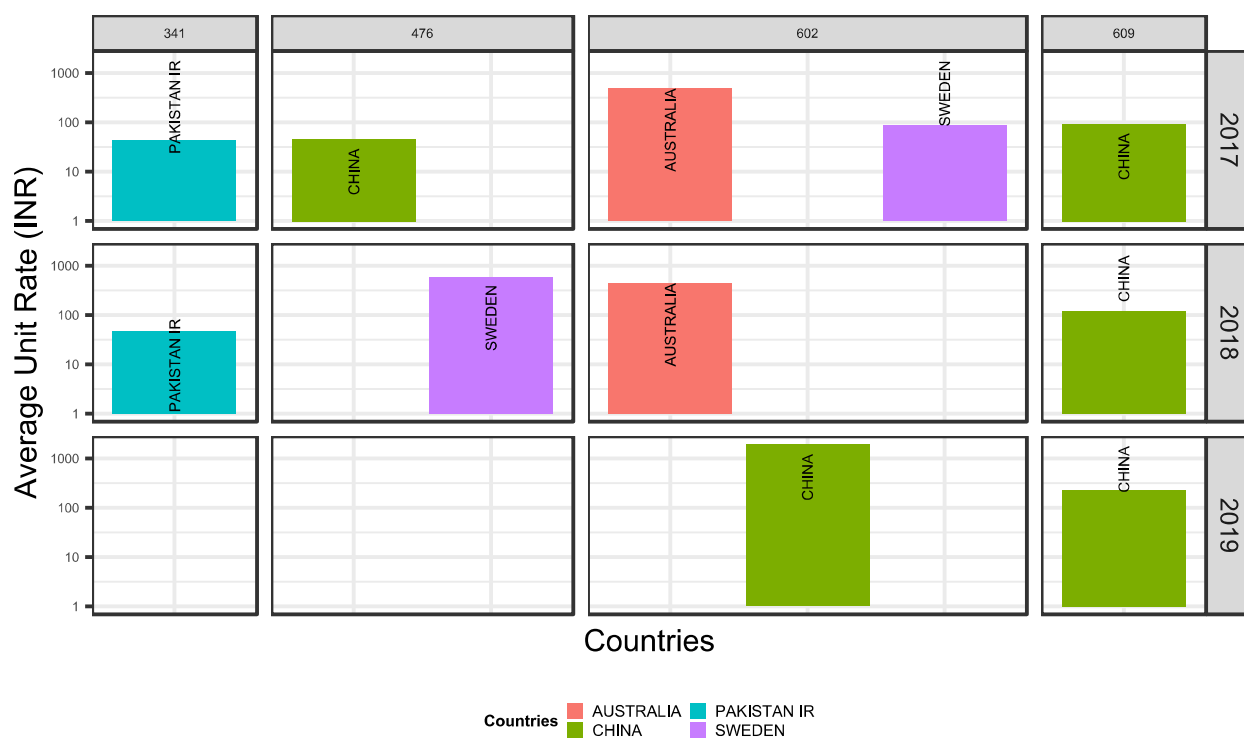


Figure 4.18: Indian import rates of ITCHS 95066910 (Hockey balls) across countries and ports

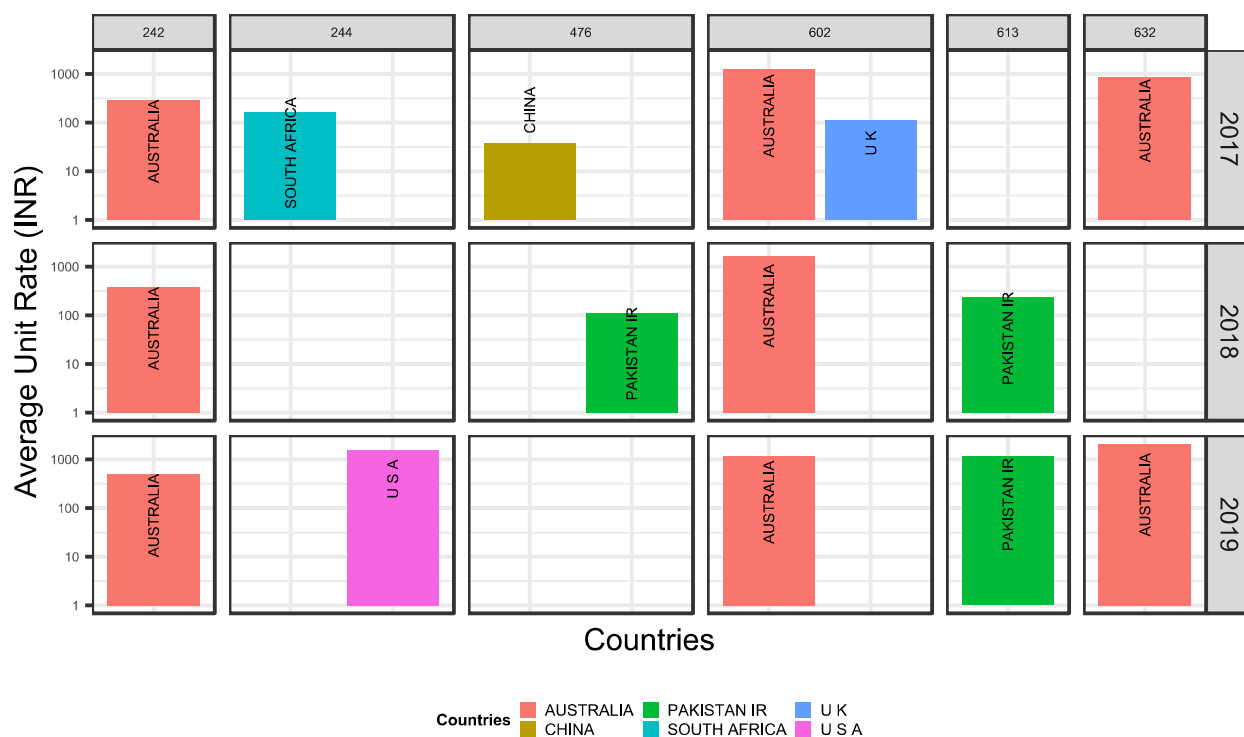


Figure 4.19: Indian import rates of ITCHS 95066920 (Cricket balls) across countries and ports



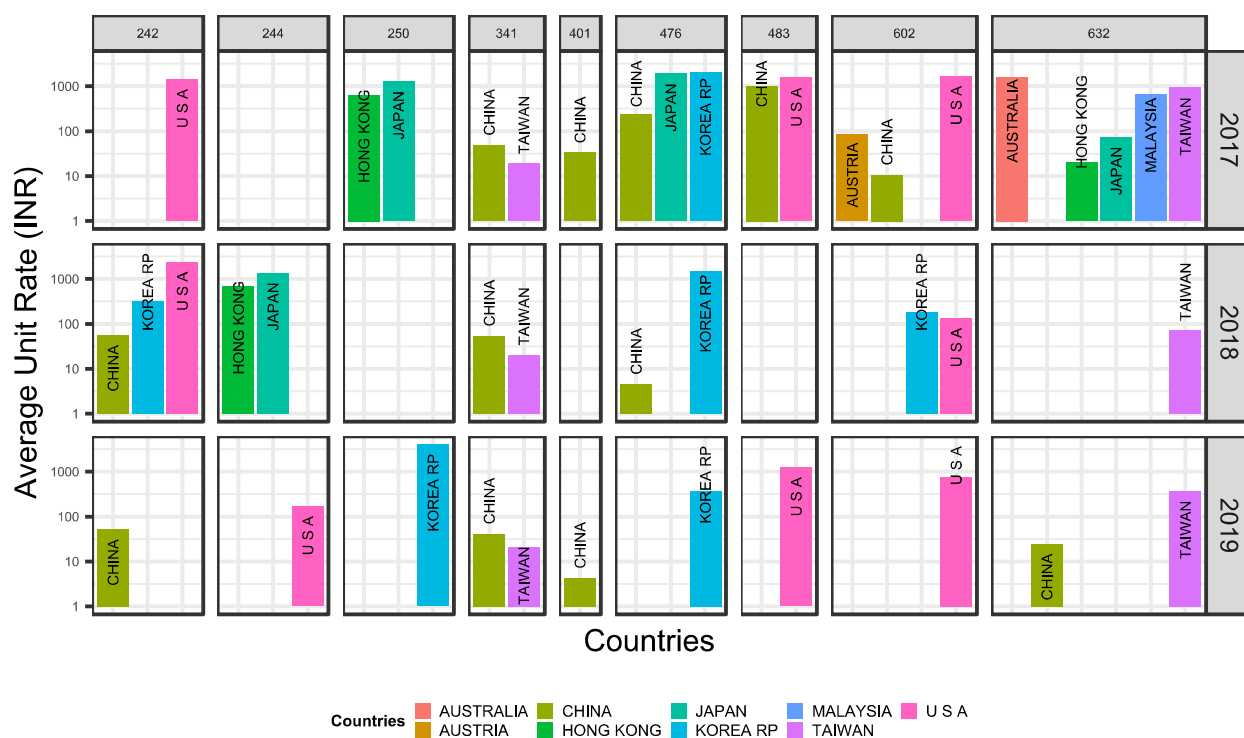
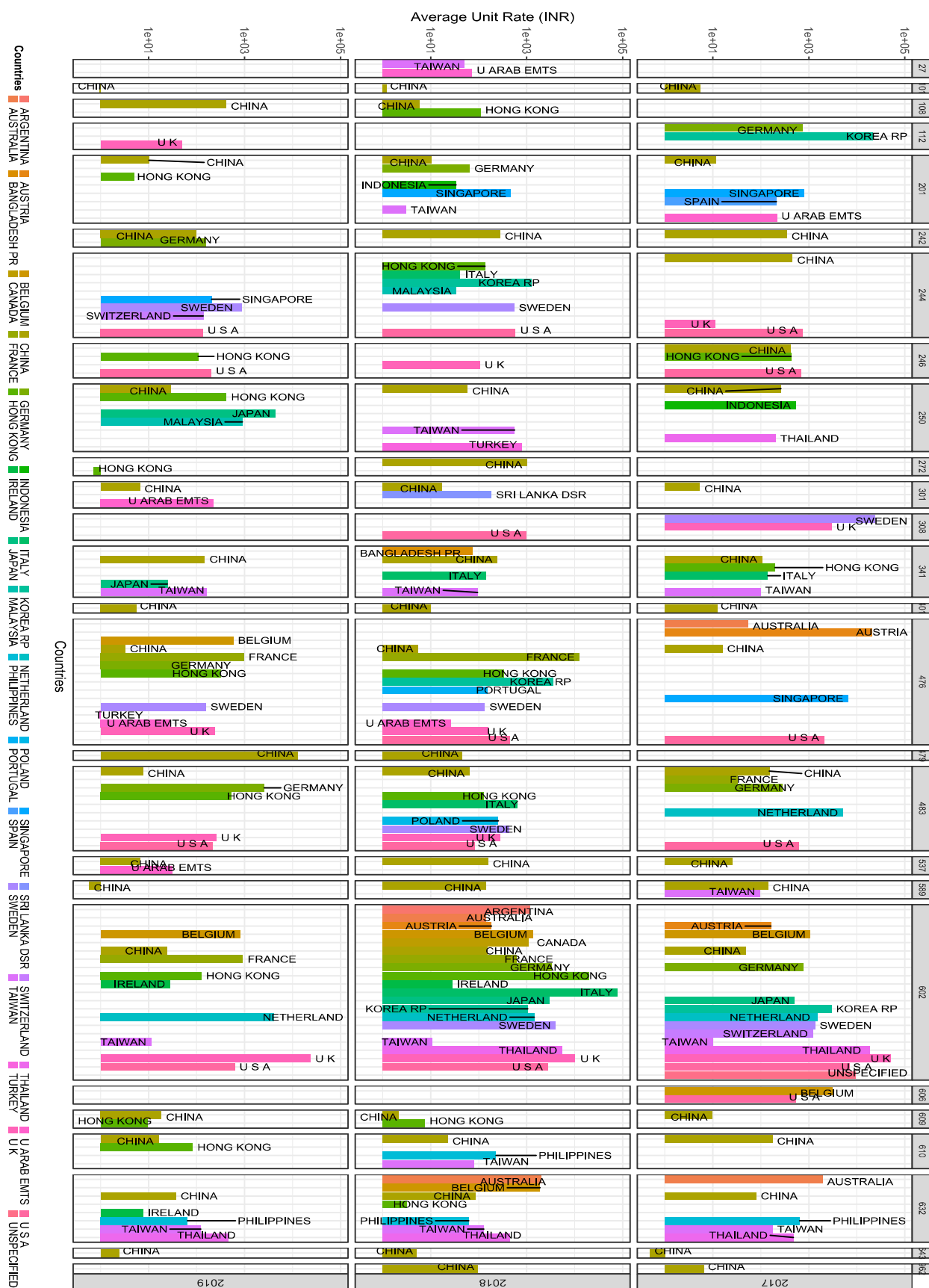


Figure 4.20: Indian import rates of ITCHS 95066930 (Golf balls) across countries and ports



Figure 4.21: Indian import rates of ITCHS 95066940 (Rugby balls) across countries and ports



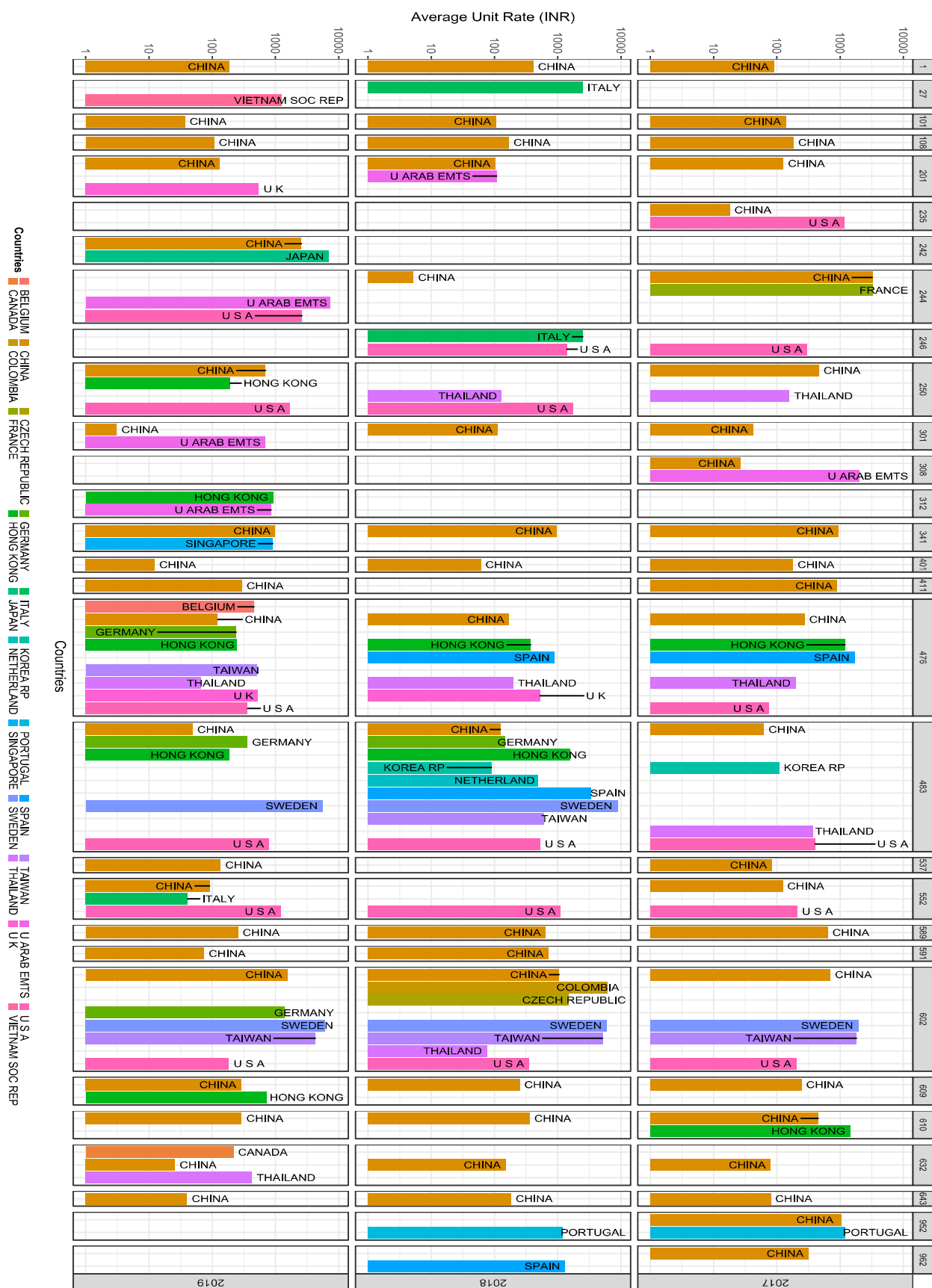


Figure 4.23: Indian import rates of ITCHS 95067000 (Ice and roller skates) across countries and ports

## Chapter 4

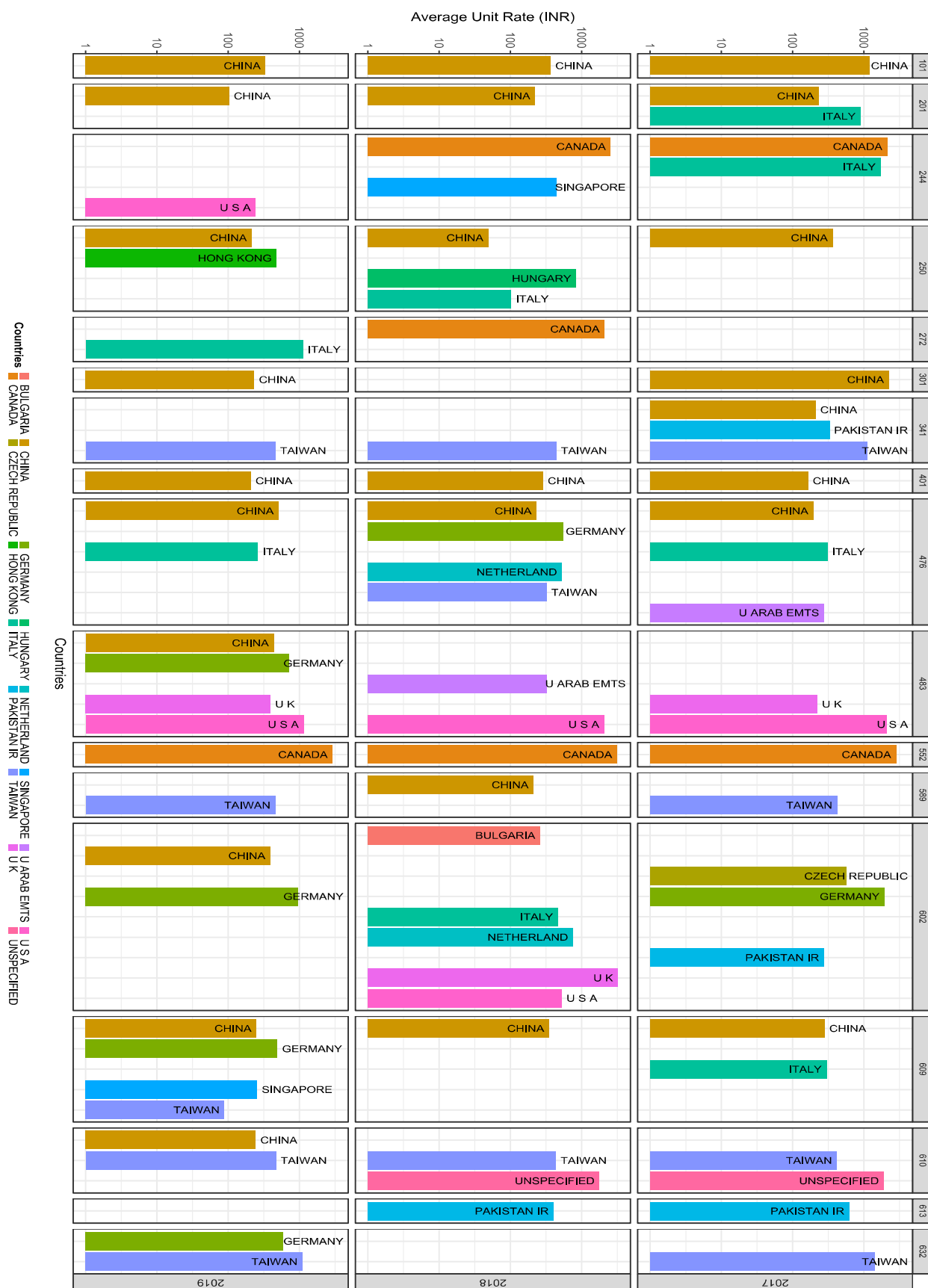


Figure 4.24: Indian import rates of ITCHS 95069110 (Boxing equipment) across countries and ports



Figure 4.25: Indian import rates of ITCHS 9506910 (Badminton shuttlecocks) across countries and ports

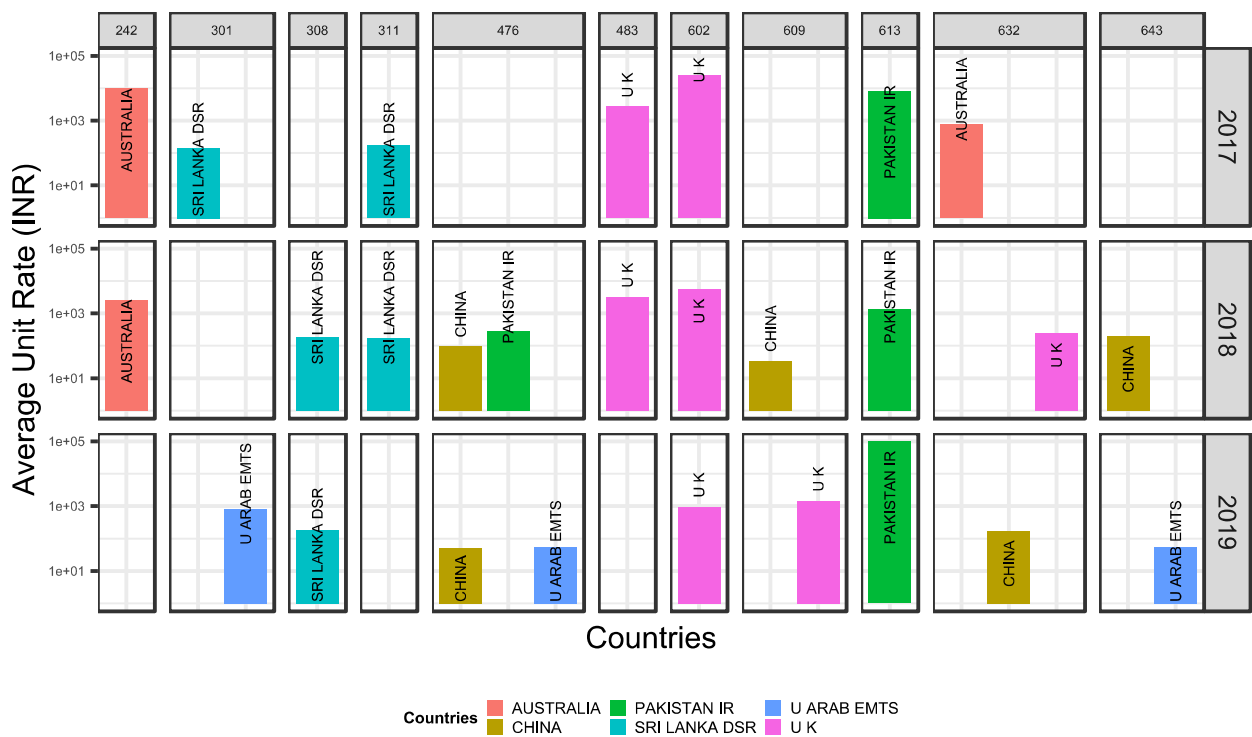


Figure 4.26: Indian import rates of ITCHS 95069920 (Leg pads and bats for cricket) across countries and ports

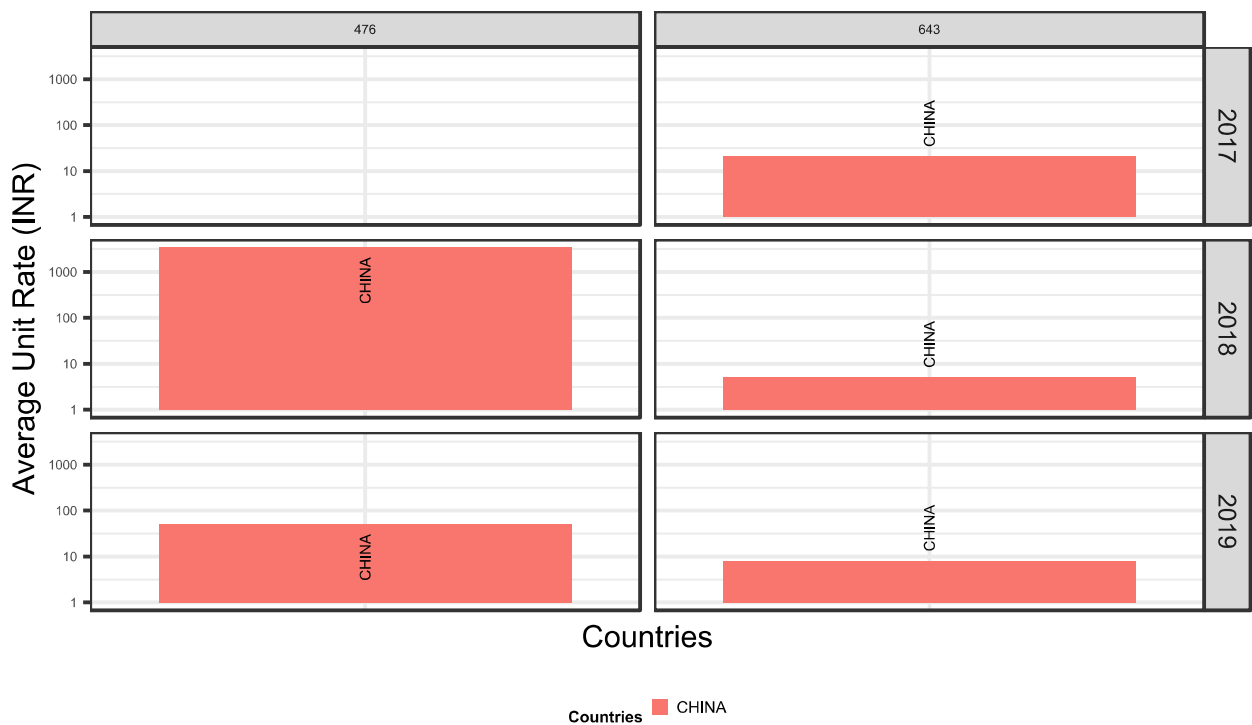


Figure 4.27: Indian import rates of ITCHS 95069930 (Shoulder pads for football) across countries and ports

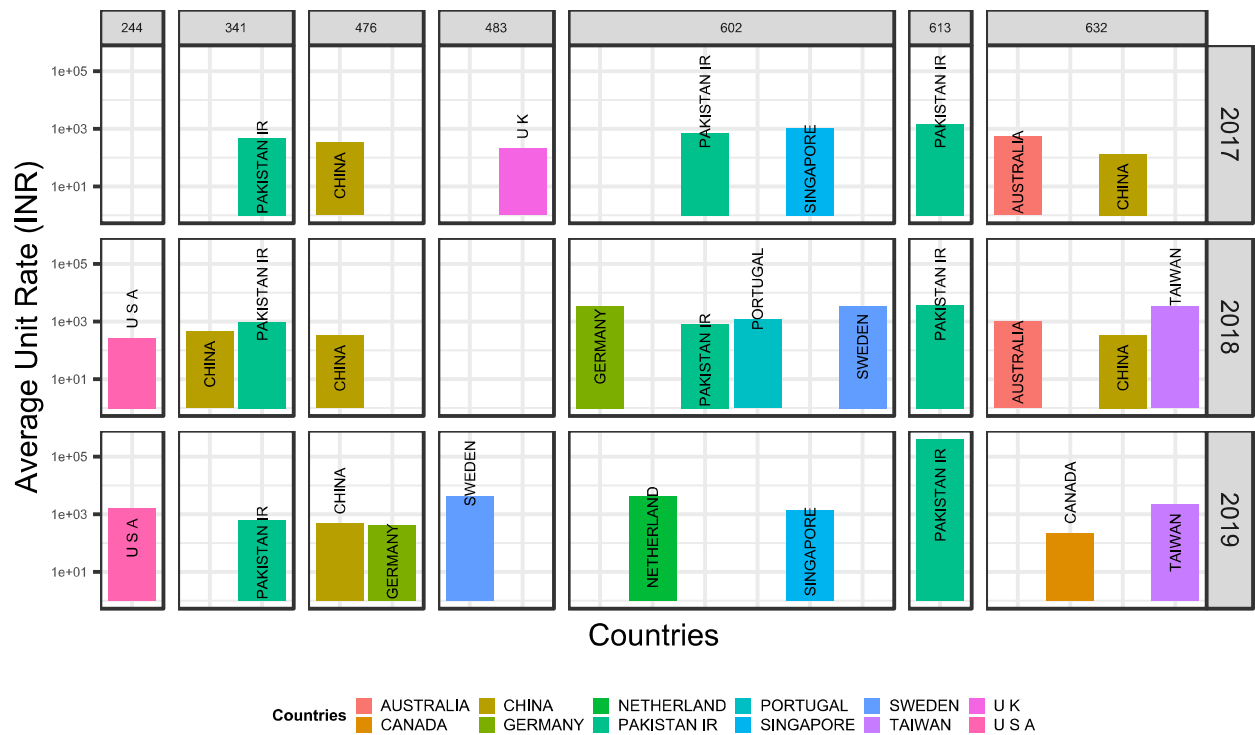


Figure 4.28: Indian import rates of ITCHS 95069940 (Hockey sticks and blades) across countries and ports

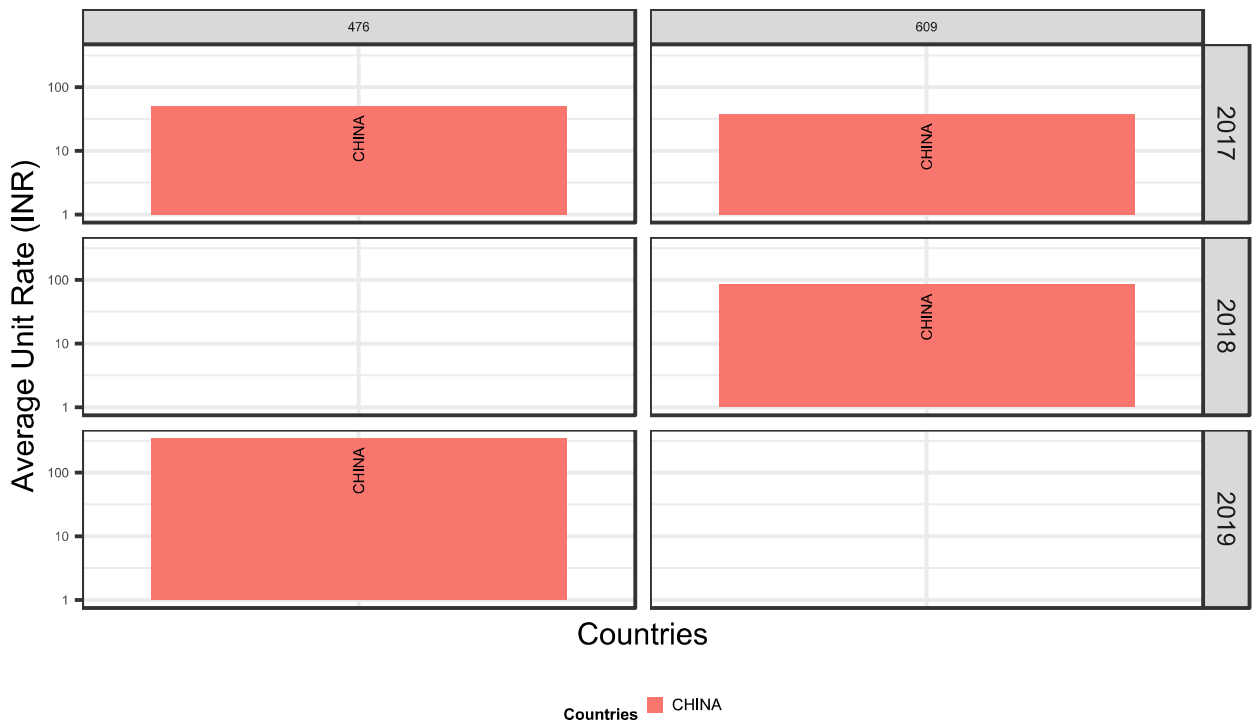
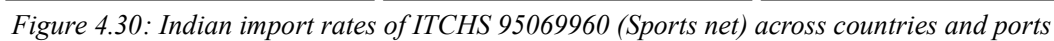


Figure 4.29: Indian import rates of ITCHS 95069950 (Polo sticks) across countries and ports





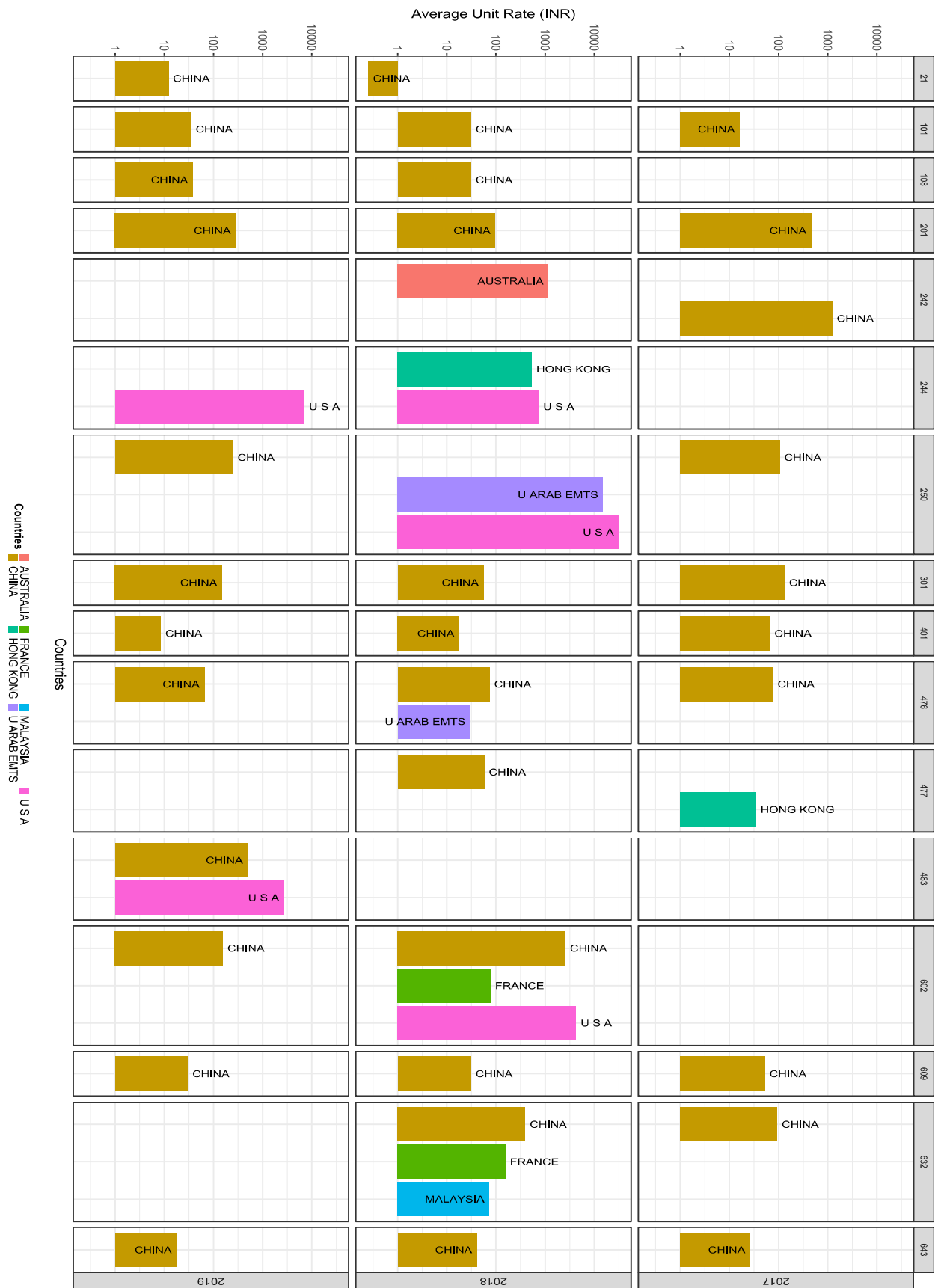


Figure 4.31: Indian import rates of ITCHS 95069970 (Tennis and badminton racket pressures) across countries and ports

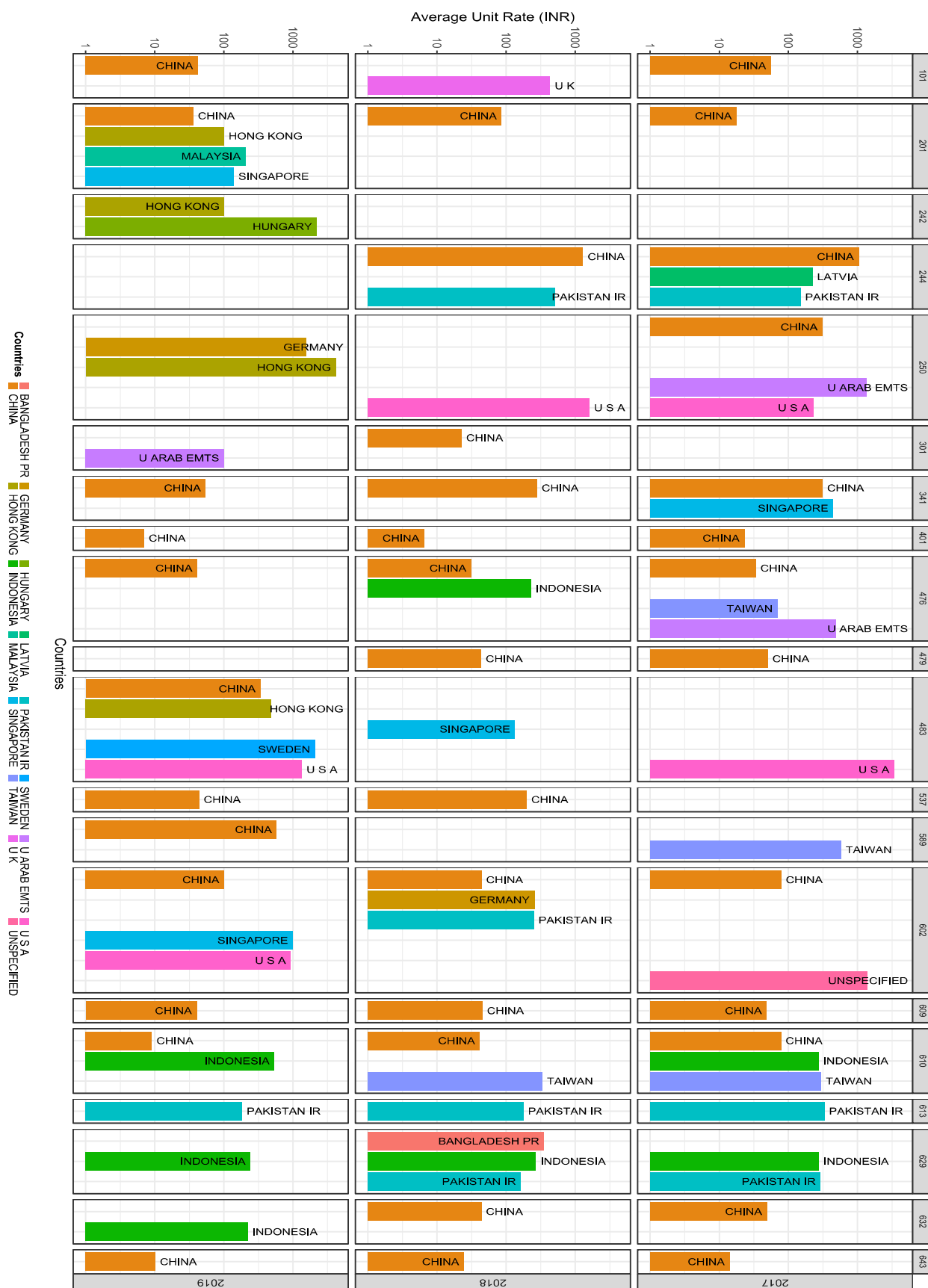


Figure 4.32: Indian import rates of ITCHS 95069980 (Shin-guards and elbow or shoulders pads excluding those for football; waist, thigh, and hip protective equipment) across countries and ports

## Chapter 5

### Significance of imports from China

The analysis from the previous chapters suggests that the major source of imports and cheap products are Chinese imports. Therefore, this chapter analyzes the importance and relative position of Chinese goods in the world and the Indian economy. At first, we will look at a few indices, such as Revealed Comparative Advantage (RCA), Revealed Comparative Import Index (RCII), Export Trade Intensity Index (ETII) and Competitive Index;<sup>78</sup> to determine the performance of Chinese goods. In the next step, we are going to show the market share of Chinese imports in India for each of the commodity codes. In the final part of the chapter, we are going to visually analyze the unit rate of Chinese exports to India, countries with similar per capita income and the world; and the average price of Indian imports within each commodity group.

#### 5.1 Trade indicators

*Table 5.1: Revealed Comparative Advantage*

ITCHS	RCA (China)					RCA (China and India)				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
9506	3.42	3.17	2.92	3.13	3.15	0.45	0.50	0.48	0.46	0.56
950611	0.11	0.10	0.07	0.08	0.06	0.00	0.00	0.00	0.00	0.00
950612	0.42	0.37	0.44	0.54	0.44	0.00	0.00	0.01	0.00	0.00
950619	2.96	3.06	2.71	2.89	2.27	0.03	0.01	0.01	0.00	0.00
950621	0.39	0.45	0.52	0.62	0.55	0.00	0.00	0.00	0.00	0.00
950629	2.59	2.70	2.66	3.00	3.38	0.06	0.03	0.04	0.09	0.07
950631	3.03	2.19	1.55	1.36	1.48	0.04	0.04	0.03	0.04	0.02
950632	0.90	1.00	0.82	1.16	0.95	0.03	0.04	0.02	0.01	0.04
950639	2.54	2.43	2.13	2.58	2.95	0.01	0.02	0.01	0.02	0.00
950640	3.37	3.27	3.18	3.16	3.42	0.67	0.56	0.64	0.89	0.69
950651	1.52	1.41	1.25	1.25	1.81	0.17	0.35	0.18	0.32	0.41
950659	4.77	4.67	3.99	4.28	4.83	2.12	2.79	2.36	2.64	2.84
950661	3.26	2.91	2.73	3.50	2.53	0.85	0.28	0.53	0.24	0.27

<sup>7</sup> The methodology and the details regarding trade indices used are given in the Appendix.

<sup>8</sup> Note that the indices represented in the table have been rounded off to 2 decimal places. Therefore, a value of 0.00 in the table may not be exactly equal to 0.

ITCHS	RCA (China)					RCA (China and India)				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
950662	4.29	4.11	3.75	4.17	4.28	0.41	0.57	0.44	0.39	0.63
950669	6.12	5.21	4.93	5.47	5.42	0.23	0.47	0.39	0.39	0.49
950670	5.02	4.51	3.91	4.36	4.24	0.23	0.28	0.35	0.30	0.51
950691	4.66	4.24	3.82	4.10	3.92	0.67	0.65	0.67	0.63	0.78
950699	2.85	2.70	2.54	2.58	2.94	0.24	0.31	0.25	0.22	0.28

Table 5.2: Revealed Comparative Import Intensity Index

ITCHS	RCII (India)					RCII (India and China)				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
9506	0.22	0.26	0.30	0.28	0.34	0.28	0.30	0.31	0.34	0.45
950611	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.02
950612	0.00	0.01	0.03	0.02	0.00	0.00	0.04	0.13	0.06	0.00
950619	0.24	0.07	0.07	0.10	0.04	0.12	0.11	0.12	0.17	0.06
950621	0.01	0.01	0.01	0.05	0.01	0.00			0.00	0.00
950629	0.05	0.05	0.11	0.06	0.07	0.03	0.03	0.03	0.05	0.08
950631	0.04	0.05	0.06	0.05	0.06	0.04	0.05	0.06	0.07	0.05
950632	0.05	0.05	0.07	0.06	0.09	0.23	0.25	0.32	0.21	0.36
950639	0.01	0.01	0.01	0.02	0.03	0.01	0.01	0.01	0.01	0.03
950640	0.23	0.21	0.32	0.29	0.34	0.35	0.29	0.42	0.41	0.46
950651	0.19	0.21	0.28	0.29	0.46	0.26	0.24	0.24	0.31	0.36
950659	1.38	2.25	2.32	2.45	2.34	1.71	2.47	2.22	2.53	1.64
950661	0.29	0.25	0.23	0.28	0.34	0.20	0.15	0.12	0.10	0.23
950662	0.16	0.15	0.14	0.14	0.17	0.23	0.20	0.16	0.18	0.29
950669	0.21	0.22	0.22	0.38	0.55	0.15	0.14	0.13	0.39	0.62
950670	0.08	0.11	0.15	0.12	0.21	0.11	0.15	0.17	0.15	0.31
950691	0.19	0.21	0.23	0.21	0.51	0.23	0.23	0.23	0.25	0.71
950699	0.46	0.53	0.63	0.57	0.34	0.60	0.59	0.62	0.68	0.40

According to Table 5.1, China has a high RCA for most of the commodities under 9506; except for 950611, 950612 and 950621 which are skis, ski-fastenings and sailboards respectively. The RCA for

950632 or golf balls is hovering around 1. However, when we calculate the RCA of China with respect to India, the revealed comparative advantage is only retained for commodity 950659, which broadly consists of badminton and other rackets. Looking at the RCII in Table 5.2, we get similar results for 950659 only, both overall and between India and China. This indicates the poor share of India's imports in sports goods and equipment compared to the share of world imports in the same. However, looking at the ETII in Table 5.3, we can judge that the bilateral trade between China and India in 9506 is greater than would be expected. According to the table, we see more importance of Chinese imports in the higher commodity codes. ETII is poor for 950611, 950612, 950621 and 950632 as expected because China has a revealed comparative disadvantage in these commodities. China is also losing its advantage gradually over commodity 950631 and that has an effect on the ETII values for the same.

*Table 5.3: Export Trade Intensity Index*

ITCHS	Export TII (China and India)				
	2014	2015	2016	2017	2018
<b>9506</b>	1.40	1.57	1.55	1.48	1.61
<b>950611</b>	0.19	0.00	0.00	0.00	0.00
<b>950612</b>	0.00	0.00	7.60	0.00	0.00
<b>950619</b>	2.42	1.27	0.85	0.05	0.01
<b>950621</b>	0.00	0.00	0.00	0.00	0.00
<b>950629</b>	0.92	0.56	1.04	1.47	0.41
<b>950631</b>	0.72	0.72	0.20	0.50	0.30
<b>950632</b>	0.19	1.19	0.31	0.16	0.57
<b>950639</b>	0.66	1.49	0.73	0.80	0.10
<b>950640</b>	2.01	1.82	1.80	2.03	0.66
<b>950651</b>	1.00	1.69	1.00	1.05	1.58
<b>950659</b>	1.19	1.12	1.02	0.93	1.15
<b>950661</b>	1.74	1.18	2.07	1.27	0.89
<b>950662</b>	0.54	1.64	1.82	1.69	1.24
<b>950669</b>	1.05	1.24	1.21	1.25	1.22
<b>950670</b>	1.62	1.64	1.82	1.73	1.94
<b>950691</b>	1.30	1.26	1.39	1.39	1.55
<b>950699</b>	0.95	1.22	1.00	0.85	1.14

Table 5.4: Competitive Index

ITCHS	Competitiveness Index (China and India)				
	2014	2015	2016	2017	2018
9506	1.52	1.49	1.66	1.61	1.64
950611	42.67	10.12	3.28	36.49	73.74
950612	16.17	15.94	16.76	8.95	2.62
950619	0.41	1.34	1.66	1.25	1.58
950621	0.87	0.00	0.00	0.03	0.11
950629	0.99	0.76	0.61	1.11	1.65
950631	1.50	2.13	3.38	4.17	2.60
950632	5.37	5.12	6.53	2.98	4.01
950639	1.15	1.42	1.36	1.81	1.65
950640	1.81	1.71	1.94	1.86	1.56
950651	5.51	5.14	4.84	5.19	2.67
950659	1.33	1.25	1.34	1.34	0.78
950661	0.49	0.49	0.60	0.25	0.67
950662	1.23	1.19	1.29	1.12	1.40
950669	0.61	0.61	0.74	0.96	0.92
950670	1.52	1.54	1.83	1.70	1.80
950691	1.12	1.13	1.29	1.29	1.45
950699	1.81	1.68	1.87	1.88	1.62

The Competitive Index in Table 5.4 reports the share of Chinese imports in India to the share of Chinese imports in the world with respect to a specific commodity. We can see that for the 9506-commodity classification, the ratio is greater than one. This implies that India places a higher relative importance in Chinese imports than the world does. The only exceptions are water sport equipment in codes 950621 and 950629, and tennis and other balls (except inflatable balls) in 950661 and 950669. For skis (950611), the world market is dominated by European countries like Austria, Germany and France. The high values corresponding the 950611 in certain years denote that most of China's exports of skis are sold to India.

## 5.2 Market share of Chinese imports in India

The following tables show the market share for imports of sport goods and equipment. The share of Chinese imports is provided followed by the share of the highest trading partner excluding China. Market shares of above 50% are highlighted. We see that for many of the markets the Chinese imports hold almost the entire share of imports. If we look at the trend in market shares of Chinese imports over the years, we can see that it has decreased in terms of import value but not in terms of import quantity. One of the explanations for this may be that the prices of Chinese imports are falling.

Table 5.5: China's share of Indian imports in ITCHS 9506 subcategories w.r.t. other nations in 2017

ITCHS	Year 2017					
	Market Share of Import Value			Market share of Import Quantity		
	China	Highest (excluding China)		China	Highest (excluding China)	
95061100	54.26%	Austria	28.52%	39.73%	Austria	31.56%
95061200	79.15%	Austria	12.68%	84.43%	France	8.83%
95061900	54.06%	U Arab Emts	12.97%	58.16%	U Arab Emts	14.95%
95062100	0.25%	France	98.84%	55.44%	France	44.41%
95062900	45.15%	Italy	28.01%	99.24%	Taiwan	0.18%
95063100	70.62%	U S A	14.91%	72.15%	U S A	11.72%
95063200	43.97%	U S A	24.59%	78.45%	Taiwan	11.47%
95063900	58.20%	U S A	19.34%	94.29%	U S A	2.62%
95064000	79.00%	Germany	7.38%	97.35%	Estonia	1.31%
95065100	83.67%	Japan	6.78%	96.00%	France	1.25%
95065910	73.47%	Taiwan	17.22%	94.45%	Taiwan	2.98%
95065990	60.25%	Taiwan	18.52%	87.48%	Taiwan	10.57%
95066100	10.96%	Thailand	73.92%	25.65%	Thailand	63.65%
95066210	50.63%	Pakistan	30.18%	85.67%	Pakistan	8.75%
95066220	47.18%	Pakistan	30.41%	79.74%	Vietnam	10.29%
95066230	46.54%	Thailand	43.69%	79.97%	Thailand	15.05%
95066290	93.49%	Philippines	3.18%	99.19%	U Arab Emts	0.62%
95066910	89.85%	Australia	6.82%	95.77%	Pakistan	3.23%

ITCHS	Year 2017					
	Market Share of Import Value			Market share of Import Quantity		
	China	Highest (excluding China)		China	Highest (excluding China)	
95066920	0.86%	Australia	98.15%	20.31%	Australia	75.89%
95066930	17.36%	Japan	28.48%	37.35%	Taiwan	29.24%
95066940	100.00%			100.00%		
95066990	71.85%	Belgium	8.62%	97.52%	Taiwan	2.02%
95067000	94.18%	U S A	2.98%	90.82%	U S A	7.69%
95069110	19.40%	Italy	32.41%	32.80%	Italy	42.52%
95069190	70.90%	U S A	9.30%	90.47%	Taiwan	4.27%
95069910	50.98%	Japan	34.44%	32.60%	Japan	48.62%
95069920	0.00%	Pakistan	70.32%	0.00%	Sri Lanka Dsr	84.19%
95069930	100.00%			100.00%		
95069940	3.55%	Pakistan	84.76%	21.02%	Pakistan	71.01%
95069950	100.00%			100.00%		
95069960	80.18%	Taiwan	10.85%	80.68%	Taiwan	17.72%
95069970	95.79%	Hong Kong	2.32%	88.94%	Hong Kong	6.42%
95069980	80.67%	Indonesia	10.68%	95.57%	Indonesia	3.18%
95069990	66.78%	U S A	12.03%	94.21%	U S A	1.28%

Table 5.6: China's share of Indian imports in ITCHS 9506 subcategories w.r.t. other nations in 2018

ITCHS	Year 2018					
	Market Share of Import Value			Market share of Import Quantity		
	China	Highest (excluding China)		China	Highest (excluding China)	
95061100	71.38%	France	9.62%	96.69%	France	1.43%
95061200	16.57%	Austria	27.08%	44.51%	Austria	26.43%
95061900	49.11%	U S A	29.10%	60.72%	U S A	26.74%
95062100	0.75%	France	88.13%	56.60%	France	42.64%
95062900	70.00%	U S A	3.93%	97.99%	Taiwan	0.48%



ITCHS	Year 2018					
	Market Share of Import Value			Market share of Import Quantity		
	China	Highest (excluding China)		China	Highest (excluding China)	
95063100	45.55%	U S A	19.57%	52.69%	U S A	19.34%
95063200	44.89%	Singapore	25.03%	90.16%	U S A	2.69%
95063900	57.03%	Japan	12.91%	92.12%	Korea RP	3.42%
95064000	67.64%	Germany	11.11%	79.69%	U Arab Emts	16.54%
95065100	58.24%	France	17.72%	97.13%	Japan	1.05%
95065910	42.61%	Japan	31.62%	81.88%	Japan	11.02%
95065990	55.37%	Taiwan	18.72%	80.15%	Taiwan	13.41%
95066100	19.84%	Thailand	55.87%	39.71%	Thailand	46.21%
95066210	75.44%	Pakistan	12.20%	95.73%	U Arab Emts	1.70%
95066220	72.81%	Thailand	13.02%	95.89%	Vietnam	2.33%
95066230	50.64%	Thailand	47.80%	85.26%	Thailand	14.45%
95066290	86.07%	Vietnam	8.36%	99.41%	U Arab Emts	0.32%
95066910	4.19%	Australia	71.27%	7.90%	Pakistan	49.92%
95066920	0.14%	Australia	97.08%	26.92%	Australia	61.14%
95066930	22.85%	Taiwan	62.47%	25.73%	Taiwan	72.71%
95066940	98.37%	Pakistan	1.42%	99.96%	Pakistan	0.04%
95066990	65.42%	Belgium	11.58%	97.15%	Taiwan	1.08%
95067000	91.77%	U K	2.96%	95.10%	U K	1.45%
95069110	34.99%	Unspecified	21.66%	58.52%	Italy	21.64%
95069190	70.60%	Taiwan	11.15%	87.67%	Taiwan	7.39%
95069910	16.19%	Japan	70.18%	19.02%	Japan	69.77%
95069920	1.73%	Pakistan	92.15%	14.88%	Pakistan	75.67%
95069930	100.00%			100.00%		
95069940	0.18%	Pakistan	89.47%	1.27%	Pakistan	80.40%
95069950	100.00%			100.00%		
95069960	86.74%	Hong Kong	6.99%	95.62%	Taiwan	3.83%
95069970	89.26%	U S A	9.60%	99.07%	U Arab Emts	0.75%
95069980	51.73%	Pakistan	28.64%	89.62%	Pakistan	7.96%
95069990	72.10%	U S A	7.96%	94.85%	Singapore	0.92%

Table 5.7: China's share of Indian imports in ITCHS 9506 subcategories w.r.t. other nations in 2019

ITCHS	Year 2019					
	Market Share of Import Value			Market share of Import Quantity		
	China	Highest (excluding China)		China	Highest (excluding China)	
95061100	14.44%	Germany	51.97%	77.54%	Germany	10.77%
95061200	0.00%	Australia	72.46%	0.00%	Australia	66.14%
95061900	19.60%	Germany	38.59%	62.66%	Germany	24.91%
95062100	9.06%	France	87.69%	92.97%	France	6.29%
95062900	71.84%	U S A	9.27%	99.31%	Malaysia	0.22%
95063100	23.43%	U S A	40.76%	34.75%	U S A	30.32%
95063200	53.05%	Singapore	19.80%	95.08%	U S A	1.72%
95063900	28.56%	U S A	23.81%	93.51%	U S A	2.15%
95064000	70.64%	Germany	11.55%	76.32%	U Arab Emts	21.28%
95065100	43.59%	France	27.45%	77.55%	France	8.22%
95065910	41.98%	Japan	47.00%	80.21%	Japan	15.61%
95065990	37.50%	Japan	19.39%	87.65%	Taiwan	8.71%
95066100	22.78%	Thailand	47.61%	59.29%	Thailand	30.58%
95066210	74.52%	Vietnam	11.76%	97.31%	Vietnam	1.68%
95066220	91.74%	Thailand	6.05%	99.52%	Thailand	0.32%
95066230	56.63%	Thailand	30.30%	81.31%	Thailand	12.36%
95066290	91.39%	Vietnam	4.31%	99.22%	U Arab Emts	0.65%
95066910	92.71%	Portugal	7.29%	81.29%	Portugal	18.71%
95066920	0.00%	Australia	99.27%	0.00%	Australia	99.08%
95066930	35.79%	Malaysia	32.46%	54.80%	Malaysia	32.64%
95066940	72.90%	U S A	27.10%	88.68%	U S A	11.32%
95066990	78.52%	Belgium	7.17%	98.57%	Taiwan	0.36%
95067000	85.96%	U K	7.86%	96.30%	U K	1.68%
95069110	28.42%	Taiwan	33.14%	43.43%	Taiwan	38.75%
95069190	72.45%	U S A	10.65%	90.70%	Taiwan	5.06%
95069910	12.39%	Japan	78.89%	9.85%	Japan	43.45%
95069920	1.73%	U Arab Emts	83.65%	1.66%	U Arab Emts	97.38%
95069930	73.73%	Australia	26.27%	98.99%	Australia	1.01%
95069940	1.67%	Pakistan	66.74%	4.96%	Pakistan	66.11%

ITCHS	Year 2019					
	Market Share of Import Value			Market share of Import Quantity		
	China	Highest (excluding China)		China	Highest (excluding China)	
95069950	59.27%	Sweden	40.73%	94.34%	Sweden	5.66%
95069960	77.30%	Taiwan	10.75%	86.94%	Taiwan	9.82%
95069970	99.98%	U S A	0.02%	100.00%	U S A	0.00%
95069980	52.50%	Indonesia	20.91%	88.13%	Pakistan	5.21%
95069990	53.77%	Switzerland	8.19%	90.97%	Italy	3.22%

### 5.3 Average unit price of Chinese products

In the final part of the chapter, we analyze the different unit rates at which China offers its exports to India and the world market. In the following series of figures, we take four different unit rates of the same commodities but in different markets; the average unit rate of Chinese exports to India, Chinese exports to countries with per capita income similar to India,<sup>9</sup> Chinese exports to the world and finally average unit rate at which India imports from the world. Comparing the first three variables tells us whether there is a bias in the prices of Chinese products in the Indian market relative to international prices. The fourth variable gives an added perspective to compare the prices of Chinese products with that of the average prices of India's imports from the world (including China). These four variables are stacked in bars on the x-axis, along with the years represented from 2014 to 2018. On the y-axis, we have the average unit rates. The plots are grouped according to the commodity codes.

#### a Snow-skis and other snow-ski equipment (950611 – 950619)

ITCHS 950611, 950612 and 950619 consists of skis, ski fastenings and ski equipment respectively and is represented in Figure 5.1. This analysis is difficult because according to the Chinese export data, it did not export skis or ski fastenings to India for most of the years. This is odd because, as we have seen, India is a major importer of Chinese skis. Therefore, there exists a mismatch between India's import data and Chinese export data and it should be noted for further investigation.

<sup>9</sup> The list of nations with similar per capita income as India is the same as mentioned before in this report.

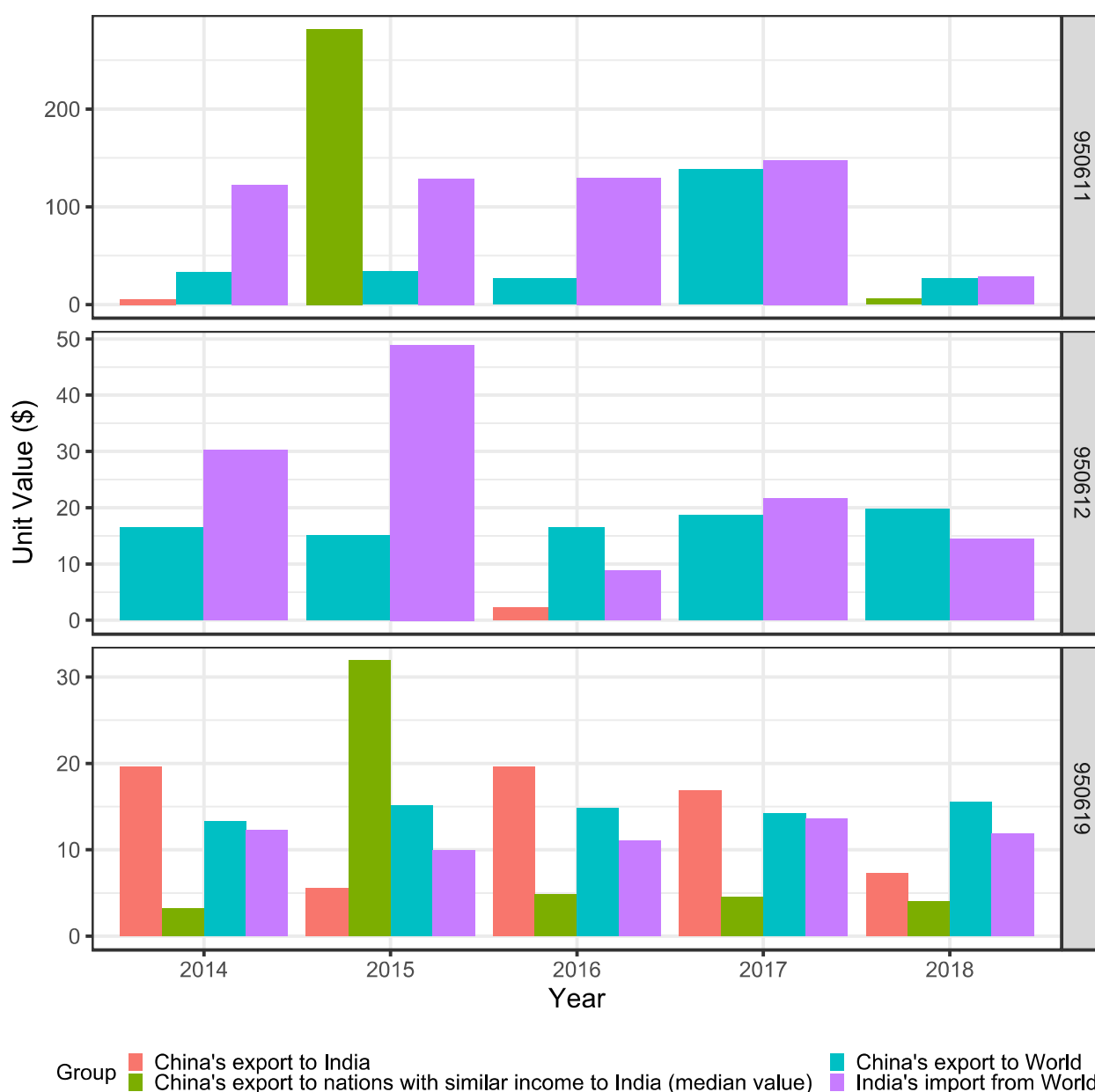


Figure 5.1: Comparison of unit values of snow-skis and other snow-ski equipment (950611 – 950619)

## b Water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629)

ITCHS 950621 and 950629 consist of sailboards and water-sport equipment respectively and is represented in Figure 5.2. As seen before, China does not have a revealed comparative advantage in sailboards; however, it is still able to offer exports at a lower price than India's import from the world. According to the tables on market share, France holds the major share of the import market value for commodity 950621 but China holds the major share of import quantity for the same com-

modity in India. However, China has reported that it does not export 950621 to India, at least in the concerning period. Looking at the UN Comtrade data for 2018, it is seen that India imported 113 items under 950621 from France for \$19,557 and weighing a total of 370 kg. It also states that India imported 150 items from China for \$165 and weighing a total of 3 kg. Recalling from previous analysis, Chinese imports in 2018 for commodity 950621 have only come through Mumbai Airport (483) which reported a unit value of INR 76. This point needs further investigation.

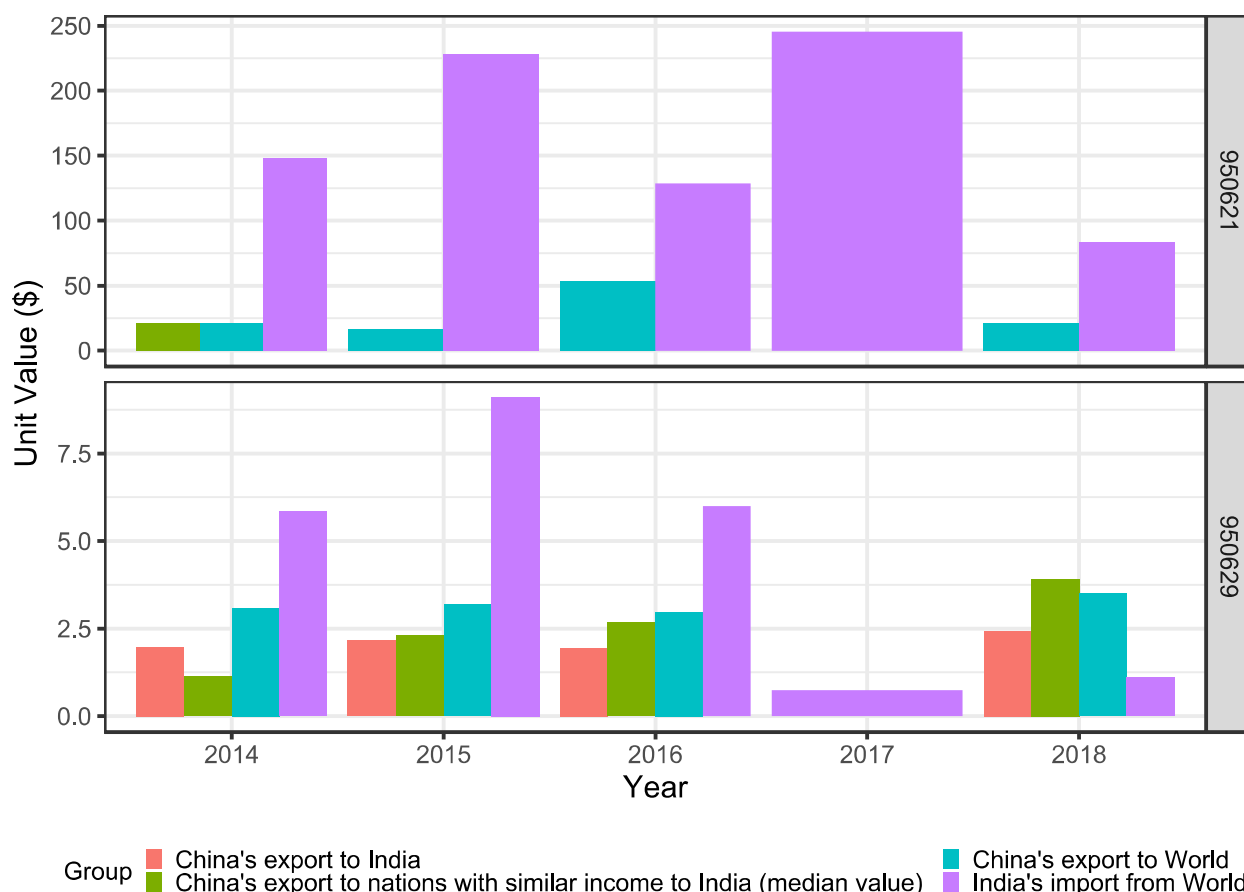


Figure 5.2: Comparison of unit values of water-skis, surf-boards, sailboards and other water-sport equipment (950621 – 950629)

### c Golf clubs and other golf equipment (950631 – 950639)

ITCHS 950631, 950632 and 950639 consist of golf clubs, golf balls and golf equipment respectively and is represented in Figure 5.3. For some of the years, the average unit rate of Chinese exports to India was less than that to nations with similar per capita income and in other years the opposite took place. Therefore, there exists no pattern to be deciphered. However, again a crucial point to note is that the Chinese data does not show any export of 950632 in the year 2017, whereas, India reports Chinese imports of ITCHS 905632 of \$4,41,182 in 2017. ITCHS 950639 is a broad category

and, therefore, we cannot explain the price differentials without ascertaining that the composition of exports is similar.

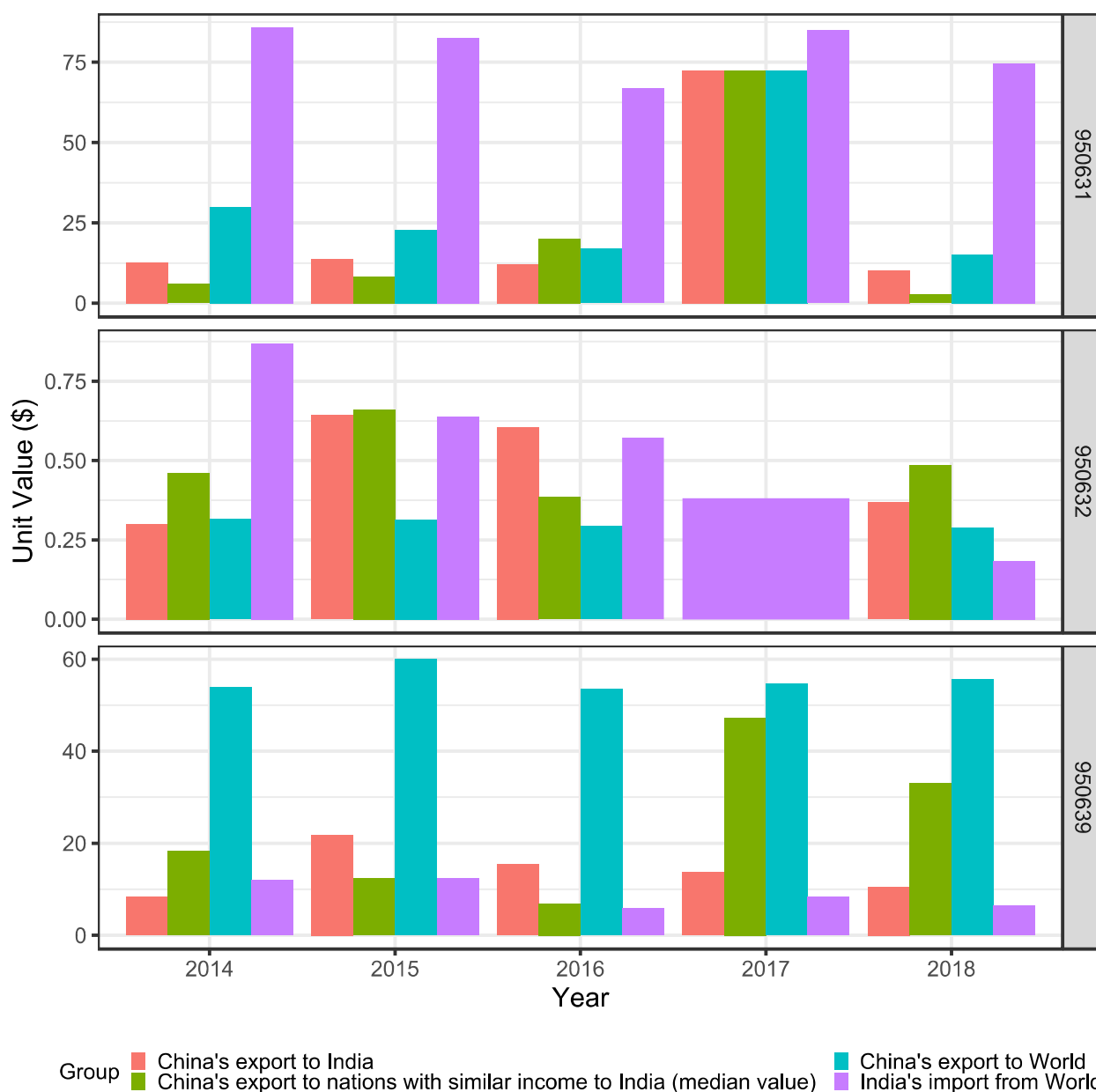


Figure 5.3: Comparison of unit values of golf clubs and other golf equipment (950631 – 950639)

#### d Articles and equipment for table-tennis (950640)

ITCHS 950640 consists of table tennis equipment. From Figure 5.4, we cannot find a distinguishing pattern between the export prices to India and other similar nations. However, if we compare the average unit rate China offers to the world, it is less than what it offers to India throughout. On the other hand, the average unit rate at which India imports table tennis equipment from the world is more expensive than what China offers.

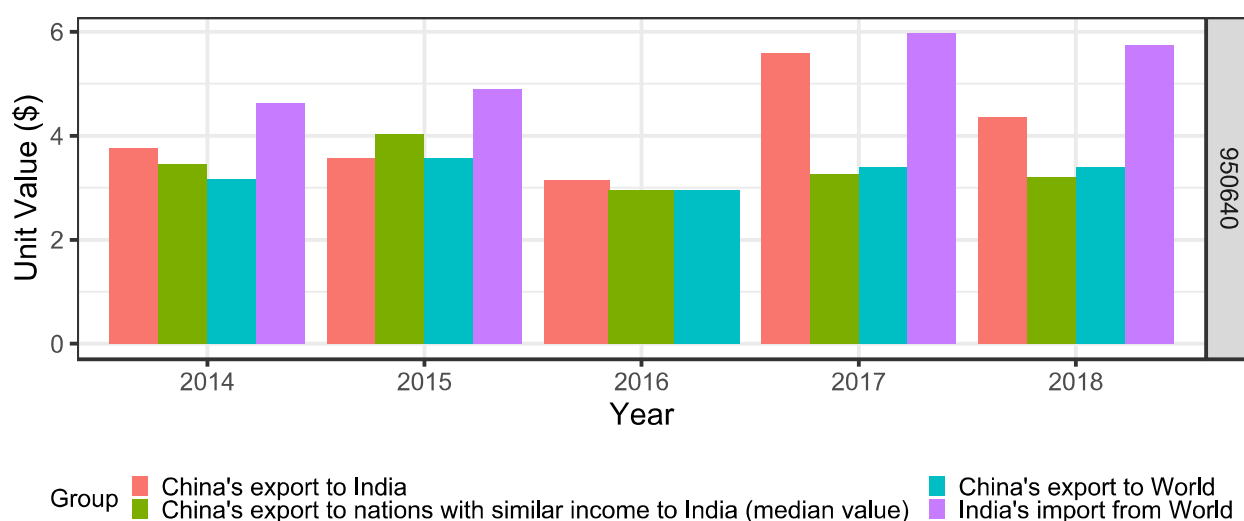


Figure 5.4: Comparison of unit values of articles and equipment for table-tennis (950640)

#### e Tennis, badminton or similar rackets, whether or not strung (950651 – 950659)

ITCHS 950651 and 950659 consist of lawn tennis rackets and squash or badminton rackets respectively and is represented in Figure 5.5. From the figure, it is evident that China offers these products at a cheaper rate than it does to the world or nations with similar per capita income. There also exists an inconsistency in the data if we compare it with previous analysis. In some of the years, the average unit rate at which India imports from the world is less than the unit rate at which China exports to India. This is only possible if there was at least one nation offering a cheaper unit rate to India than China. However, from the previous chapters, it was evident that for ITCHS 950651 and 950659, Chinese imports were the cheapest throughout. This needs further investigation.

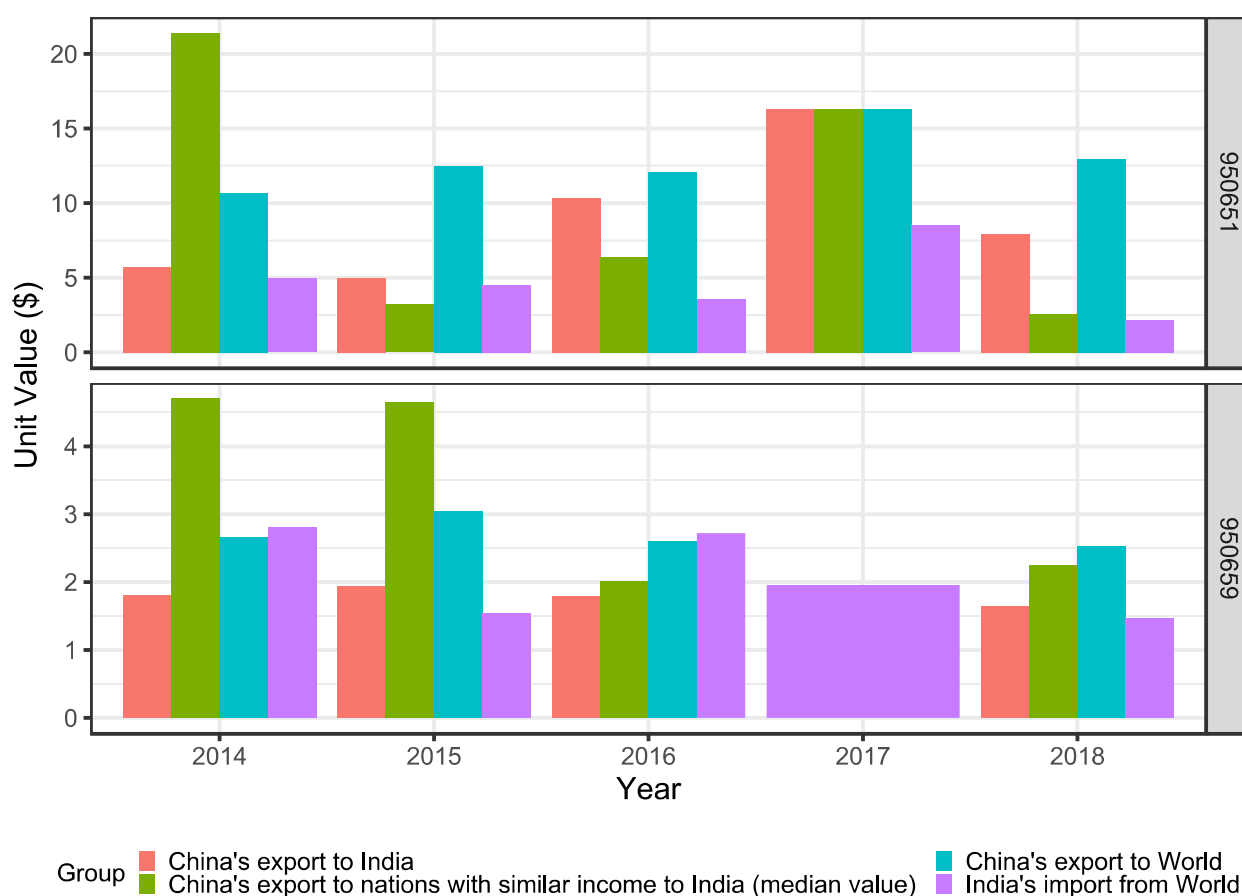


Figure 5.5: Comparison of unit values of tennis, badminton or similar rackets, whether or not strung (950651 – 950659)

#### f Balls, other than golf balls and table-tennis balls (950661 – 950669)

ITCHS 950661, 950662 and 950669 consist of lawn tennis balls, inflatable balls (such as football, basketball etc.) and other balls (such as cricket, hockey, rugby etc.) respectively and is represented in Figure 5.6. Categories 950662 and 950669 are too broad for comparative analysis. For ITCHS 950661, although an exact pattern cannot be deciphered, in 2015, the unit rate offered by China to India had fallen sharply while the other prices remained almost the same. The prices recovered and are relatively stable in recent years. However, such a fall is worth investigating.



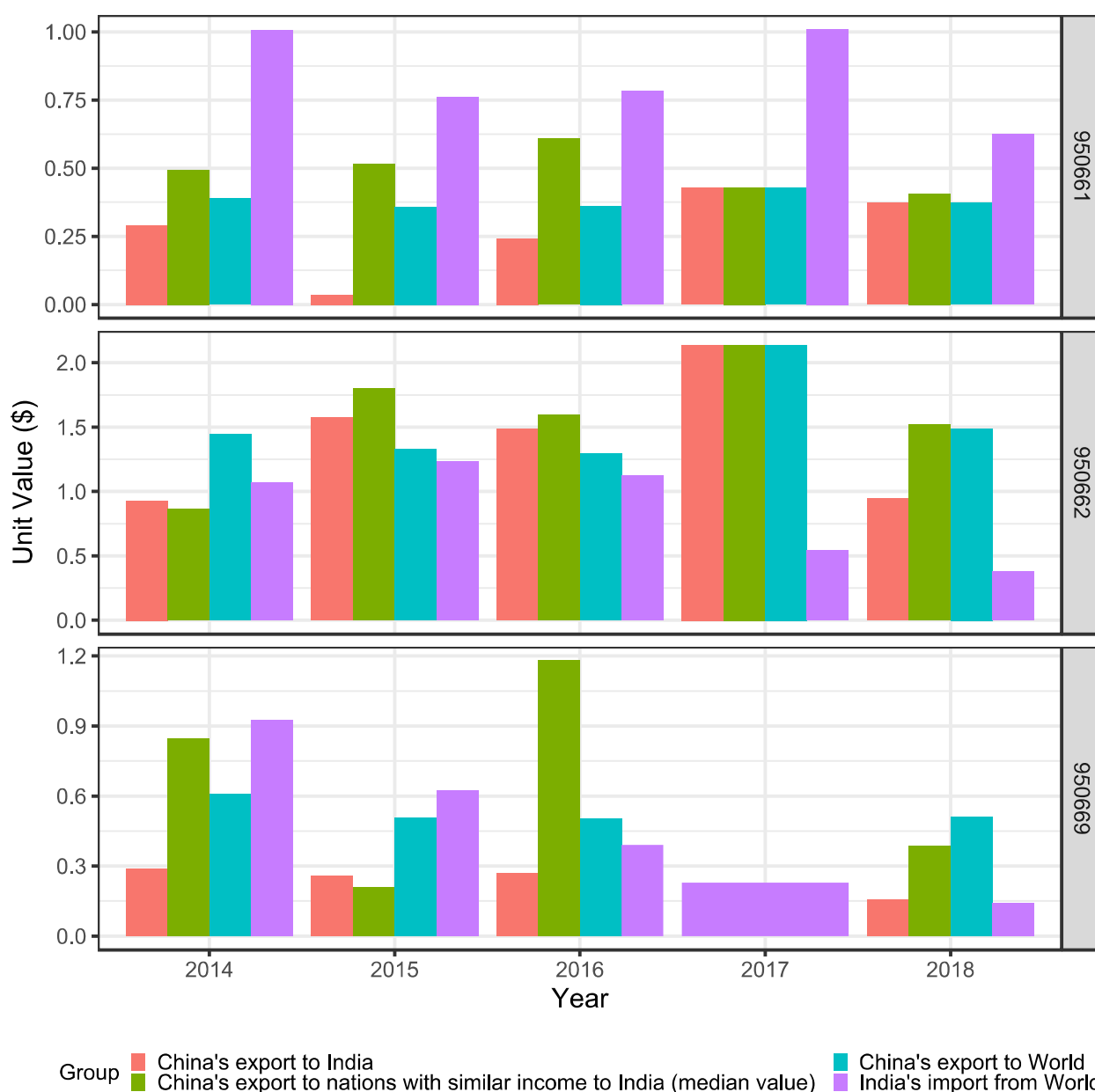


Figure 5.6: Comparison of unit values of balls, other than golf balls and table-tennis balls (950661 – 950669)

## g Ice skates, roller skates and skating boots (950670)

ITCHS 950670 represents ice skates and roller skates. As seen in Figure 5.7, the sudden spike in export prices in the year 2017 is striking. With reference to Chapter 3, in the previous analysis of import prices of Chinese goods in India during 2017, we saw that the Chinese import prices fell steeply from 2016 to 2017. In both 2017 and 2018, we see that the average price at which India imports from the world is less than the average price at which China exports to India. We have seen, previously, that for commodities under ITCHS 950670, imports from Thailand have lower unit rates

than that of China. Therefore, this is not very surprising. The other point to note here is, China offers a higher price for these exports, on average, to the rest of the world.

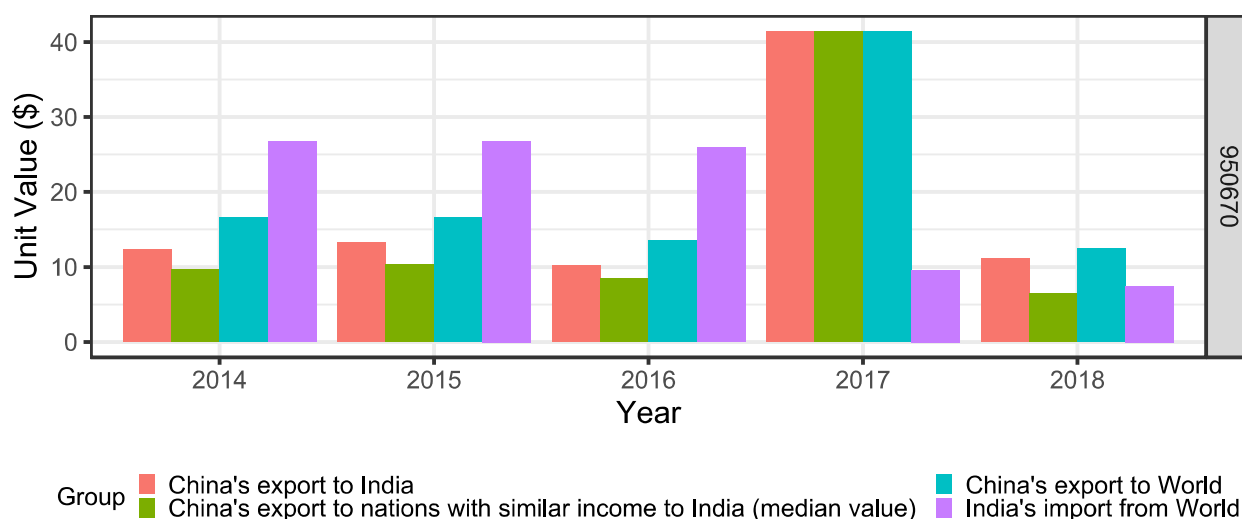


Figure 5.7: Comparison of unit values of ice skates, roller skates and skating boots (950670)

## h Physical exercise, gymnasium and athletics equipment (950691)

ITCHS 950691 represents boxing equipment and is represented in Figure 5.8. The unit rate for Chinese exports to India is, in comparison, less than those to nations with similar per capita income. However, it is more or almost equal to the unit rate of Chinese exports to the world. All the Chinese export prices are approximately in the same range and show consistency. It is a lot less than the prices at which India imports from the world.

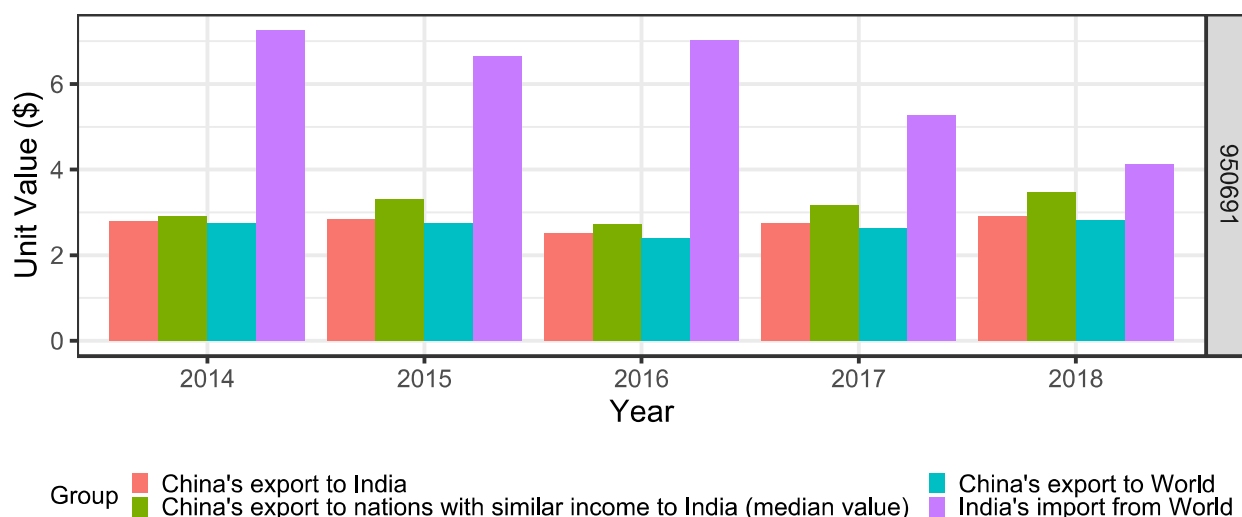


Figure 5.8: Comparison of unit values of physical exercise, gymnasium and athletics equipment (950691)

### i Equipment nes for sports, swimming and paddling pools (950699)

ITCHS 950699 consists of items not specified in the previous categories and, hence, is a fairly diverse group. It is represented by Figure 5.9, however, further analysis is not feasible due to the heterogeneous composition of items in this group.

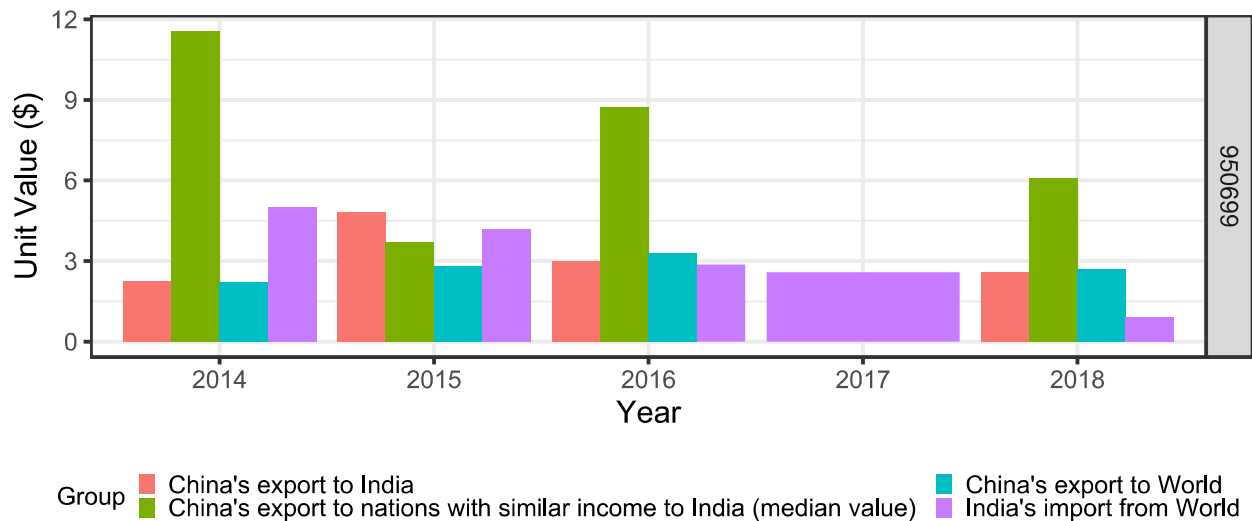


Figure 5.9: Comparison of unit values of equipment nes for sports, swimming and paddling pools (950699)



## Chapter 6

### Findings

A summary of key findings from the above analysis is represented below.

1. The unit rate for Indian imports is, on average, lower than that of other countries averages. Exceptions to the former statement include golf clubs (950631), table tennis equipment (950640) and lawn tennis balls (950661).
2. After segregating the imports based on partner countries, we find out that imports from China, on average, are relatively cheaper than imports from other countries. Exceptions to the former statement include golf clubs (950631), table tennis equipment (950640) and skates (950670).
3. The unit rate of imports from China has unusually low reported values at certain ports in comparison to other ports in India. We found out that the reported values at Kolkata seaport and Mumbai seaport, in quite a few occurrences, is distinctly low.
4. China has a high revealed comparative advantage (RCA) index overall, which reasserts the fact that China is a very important exporter of sports equipment (except for ski products and sailboards).
5. A low revealed comparative import index (RCII) for India indicates the poor share of India's imports in sports goods and equipment compared to the share of world imports in the same. Therefore, the import demand in India for these commodities is not very high. However, badminton and similar rackets (950659) are an exception to the previous statement and India imports a more than expected share of such rackets as compared to the world.
6. The export trade intensity index (ETII) between China and India is high for many product categories in this classification (over 50 percent of the categories). The ETII for the overall category of 9506 is greater than 1 also. This implies that, for China, India is a relatively important trading partner than the rest of the world.
7. On the other hand, for Indian, China is an important source of these commodities (except sailboards and lawn tennis balls) in comparison to the rest of the world. This can be inferred from the high values of the competitive index (CI) measure.
8. In India, for most of the commodities, Chinese imports dominate the market share. The market share is greater in terms of quantity than in terms of trade value which reasserts the fact that Chinese imports are relatively cheaper than imports from other countries.
9. Based on the data of Chinese exports, there is not enough evidence to conclude that China offers distinctly lower prices to India than it does to the rest of the world.

## *Chapter 6*

10. Throughout the analysis, we have pointed out some discrepancies and unusual cases; however, under-invoicing cannot be concluded from the given data and further investigation is required to come to a conclusive result.

## **Chapter 7**

### **Recommendations**

According to the data and analysis of the average unit rate of imports in recent years, we have reached the conclusion that Chinese imports in the category of HS 9506 are very cheap compared to the imports from other countries. However, exceptions to the previous statement are in the case of golf clubs (950631), table tennis equipment (950640) and ice and roller skates (950670). The increase in the absolute unit prices of imports, after imposing higher tariffs, would be less for Chinese products than for imports from other countries. Even if we consider the quality of goods, the threshold level of prices at which the consumers would shift to lower quality products is unknown. Assuming that lower prices generally account for lower quality, we can consider that Chinese products are of inferior quality than other nations. Increasing the tariff uniformly might make the prices of higher quality products go beyond what people can afford, and this might make consumers shift to inferior Chinese products. The effect will be more prominent if the quality differences are not very distinguishable. Thus, given the wide differences in prices, if a bias is created towards Chinese products, then we might notice a fall in the revenue collected from the tariff.

To avoid the problem discussed above, if an increase in tariff is required, we should implement it on Chinese imports only. If the given elasticity of demand is less than 1, we should notice an increase in the revenue generated. However, given the current situation, we are unable to gauge the effects of a global pandemic on the demand and supply sides. We perceive that there are negative shocks to the economy on both sides and increasing tariffs right away would be detrimental to the Indian economy. After the effect of the pandemic subsides, we should examine the parameters of the demand and supply side to check if it is consistent with the levels during the years 2017-2019. Only then would the suggestion of increasing tariffs on imports from China have the desired effects.

## Appendix A

### Codes

#### A.I Country codes

The country codes used in the following exercise is equivalent to the ISO 3166, which is also followed by UN Comtrade. The list of relevant country codes is given below.

- |         |                        |         |                    |
|---------|------------------------|---------|--------------------|
| 1. AUS  | Australia              | 17. NLD | Netherlands        |
| 2. AUT  | Austria                | 18. NIC | Nicaragua          |
| 3. BEL  | Belgium                | 19. NGA | Nigeria            |
| 4. CAN  | Canada                 | 20. PAK | Pakistan           |
| 5. CHN  | China                  | 21. KOR | Rep. of Korea      |
| 6. HKG  | China, Hong Kong SAR   | 22. MDA | Rep. of Moldova    |
| 7. CZE  | Czechia                | 23. RUS | Russian Federation |
| 8. FRA  | France                 | 24. SGP | Singapore          |
| 9. DEU  | Germany                | 25. ESP | Spain              |
| 10. HND | Honduras               | 26. PSE | State of Palestine |
| 11. IND | India                  | 27. CHE | Switzerland        |
| 12. ITA | Italy                  | 28. GBR | United Kingdom     |
| 13. JPN | Japan                  | 29. USA | USA                |
| 14. LAO | Lao People's Dem. Rep. | 30. VNM | Viet Nam           |
| 15. MRT | Mauritania             | 31. THA | Thailand           |
| 16. MEX | Mexico                 | 32. YEM | Yemen              |

#### A.II Port codes

The following is a list of port codes and the respective port names used in this document.

- |    |                         |    |                         |
|----|-------------------------|----|-------------------------|
| 1  | ICD Kanech, Inlogistics | 17 | CFS Albatross/ICD Dadri |
| 15 | SEZ Moradabad           | 18 | CFS Startrack Dadri     |
| 16 | CGML Dadri              | 20 | ICD Noida-Dadri         |



21	ICD Piyala Ballagarh	266	ICD Irungattukottai
23	ICD Panki, Up	272	ICD Hyderabad
27	Amrl Intl. Tech City, Mepz	275	Sipct Ele Hw Hite SEZ Oragadam
41	ICD Pakwara Moradabad/Meerut	276	Cheyyar SEZ Cheeyar Tamilnadu
46	ICD Juhi Railway Yard Kanpur	295	Sri City Pvt Ltd
49	Crystal IT Park, Indore	301	Cochin Sea
52	Kattupalli Port/ Tiruvallur	308	Cochin Airport
54	Hazira Port, Surat	310	Trivandrum Airport
67	TRIL Info Park Ltd Chennai	311	ACC Calicut, Karipur
87	ICD Dhannad	312	ACC Coimbatore
88	ICD Kheda	327	Info Park SEZ Kochi Kerala
101	Kolkata Sea	340	Global Village Cochin
108	ICD Sonipat	341	J Matadee Chennai
112	Kolkata Air	357	Hiranandani Builder SEZ Mumbai
119	Apiic Limited (Naidupeta)	367	Lucknow Air
134	Petrapole Land	401	Mumbai Sea
189	Falta Epz	411	ICD Chowpayal
201	Chennai Sea	464	Maha Airport Dev Corp Nagpur
211	Ennore Sea	476	Nhava Sheva Sea
212	Tuticorin Sea	477	CFS Mulund
221	ICD Tuticorin	479	ICD Nagpur
227	Visakhapatnam Sea	483	Mumbai Air
231	Newmangalore Sea	499	ICD Pithampur (Indore)
235	Krishnapatnam	515	Kandla Sea
241	Apache Footware Nellore	537	Mundra
242	Chennai Air	542	Pipavab (Vicyor)
244	Bangalore Airport	545	SEZ Mundra
246	Hyderabad Airport	552	Ahmedabad Air Cargo Complex
250	ICD Bangalore	559	SEZ Kandla

## *Appendix*

577	Eon Kharadi SEZ Pune Maharas	663	ICD Thar Dry Port, Jodhpur
589	ICD Sahnewal, Grfl	669	ICD Samalkha Panipat
591	ICD Sabarmati	675	ICD Borkhedi
593	ICD Vadodara/Baroda	690	Infosys SEZ Indore
602	Delhi Air	716	SEZ Cheyyar, Pochampalli
606	Jaipur A.C.	719	M/S Eon Kharadi Pune
609	Delhi (ICD)	805	ICD Guwahati (Amin Gaon)
610	ICD Ludhiana	893	Kip SEZ North Bangalore
611	ICD Dhandari Kalan, Pswc	901	Marmagoa Sea
613	Amritsar Rly.Stn.	952	Telegaon
615	Attariroad,Amritsar	953	ICD Loni
625	FPO Jaipur	955	Indore Air
629	ICD Garhiharsaru	958	ICD Mandideep
632	CFS Patparganj	959	ICD Raipur
635	ICD Jodhpur	962	Arshiya Intl. Ftwz-SEZ, Raigad
643	ICD Faridabad	966	Manyata Ebpark B~Lore
652	ICD Kanakpura	968	Adarsh Prime Ltd Karnataka
653	ICD Thar Dry Port	974	DLF Comm Developers Vizag
655	ICD Patli		

## Appendix B

### Trade indices

#### B.I Revealed Comparative Advantage (RCA) Index

RCA for a commodity exported from a country means the importance of this commodity in the export trade of the country in comparison with the importance of the commodity in world exports. Mathematically,

$$RCA_{ij} = \frac{\frac{x_{ij}}{X_{it}}}{\frac{x_{wj}}{X_{wt}}} \quad \text{where,} \quad \begin{array}{l} x_{ij} = \text{country } i\text{'s exports of commodity } j \\ X_{it} = \text{country } i\text{'s total exports} \\ x_{wj} = \text{world exports of commodity } j \\ X_{wt} = \text{total world exports} \end{array}$$

When  $RCA_{ij} > 1$ , i.e. when  $j$ 's weight in  $i$ 's exports ( $x_{ij}/X_{it}$ ) is more than  $j$ 's weight in world exports ( $x_{wj}/X_{wt}$ ), country  $i$  is said to have a revealed comparative advantage in commodity  $j$ . There is a revealed comparative disadvantage if  $RCA_{ij} < 1$ . When  $RCA_{ij} = 1$ , there is neither a comparative advantage or a disadvantage.

By studying the RCA for a commodity exported from a country over time, it can be seen whether the country in question is gaining in comparative advantage regarding a particular commodity. If RCA is falling, the reasons require investigation. ( $x_{ij}/X_{it}$ ) may have risen less or fallen more than proportionately than ( $x_{wj}/X_{wt}$ ).

#### B.II Revealed Comparative Import Intensity (RCII) Index

Like RCA, the revealed comparative import intensity (RCII) can also be measured.

$$RCII_{ij} = \frac{\frac{m_{ij}}{M_{it}}}{\frac{m_{wj}}{M_{wt}}} \quad \text{where,} \quad \begin{array}{l} m_{ij} = \text{country } i\text{'s imports of commodity } j \\ M_{it} = \text{country } i\text{'s total imports} \\ m_{wj} = \text{world imports of commodity } j \\ M_{wt} = \text{total world imports} \end{array}$$

This gives an idea of whether the proportion of imports of any commodity is more than expected, in terms of the share of that commodity in world imports.

### B.III Export Trade Intensity Index (TII)

$$RC A_{ij} = \frac{\frac{x_{ij}}{X_{it}}}{\frac{x_{wj}}{X_{wt}}} \quad \text{where,} \quad \begin{array}{l} x_{ij} = \text{country } i\text{'s exports to country } j \\ X_{it} = \text{country } i\text{'s exports to the world} \\ x_{wj} = \text{world exports to country } j \\ X_{wt} = \text{total world exports} \end{array}$$

This essentially measures the relative importance of country  $j$  in country  $i$ 's export trade, in comparison with country  $j$ 's importance as world export destination. A TII of less than 1 or greater than 1 implies less than or more than expected bilateral trade respectively. If TII is already high, there is little scope of a further increase in bilateral trade between  $i$  and  $j$ . But if it is low, and if the Trade Complementarity Index (TCI) is high, bilateral trade can very well be increased through trade agreements.

### B.IV Competitive Index (CI)

$$CI_{ij} = \frac{\frac{m_{ij}}{M_{it}}}{\frac{m_{wj}}{M_{wt}}} \quad \text{where,} \quad \begin{array}{l} m_{ij} = \text{country } j\text{'s imports from country } i \\ M_{it} = \text{country } j\text{'s total imports} \\ m_{wj} = \text{world imports from country } i \\ M_{wt} = \text{total world imports} \end{array}$$

This essentially measures the relative importance of country  $i$  in country  $j$ 's import trade, in comparison with country  $i$ 's importance as world import source. A CI of less than 1 or greater than 1 implies less than or more than expected market share in comparison to world market.

