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# HS 87 EXPORTS BEHAVIOR OF GERMANY, JAPAN AND UNITED STATES OF 

# AMERICA FROM 2015 TO QUARTER ONE 2020 

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## ABSTRACT

Exporting Vehicles and their parts, accessories is a key component in world exports market. Harmonized commodity description and coding system discusses about Vehicles other than railway or tramway rolling stock, and parts and accessories under 87th chapter. As vehicles and their parts and accessories vital in world economy this study discusses about the exports behavior HS 87 exports of Germany, Japan and United States of America from 2015 to 2019. Further the study focuses about the behavior HS 87 exports behavior of Germany, Japan and United States of America during quarter one in 2020 in which Covoid-19 negatively impacted to world economy. Mathematical calculations are used in the analysis to observe the behavior of exports categorized under HS 87 of Germany, Japan and United States of America. According to the findings Germany, Japan and United States are the top three exporters under HS87 from 2015 to 2019 and they owns more than $35 \%$ of share with respect to the total world exports of HS 87. Germany has declined HS87 exports by $14.70 \%$, Japan has declined HS87 exports by $6.89 \%$ and United States of America has declined HS87 exports by 7.95\% during quarter one quarter one, 2020. HS8705, HS8702 and HS8711 products own the highest decline rates for Japan, Germany and United States of America respectively in quarter one 2020.

HS 8703 does the highest contribution to the decline reported under HS87 for Japan and Germany and HS 8708 does the highest contribution to the decline reported under HS87 for United States of America during first quarter 2020.

Keywords: HS87 exports, vehicle exports of Germany Japan United States of America, Vehicle exports during COVOID-19

## ABBREVIATIONS

HS: Harmonized commodity description and coding system

USD: United States Dollar
Q1: Quarter one
8701 Tractors (other than works trucks of heading 8709)

8701 Tractors (other than works trucks of heading 8709)

8703 Motor cars \& vehicles for transporting persons

8703 Motor cars \& vehicles for transporting persons

8704 Motor vehicles for transport of goods

8705 Special purpose motor vehicles
8707 Bodies (including cabs), for specific motor vehicles

8708 Parts \& access for motor vehicles (head 8701-8705)

8708 Parts \& access for motor vehicles (head 8701-8705)

8711 Motorcycles \& cycles with aux motor

8712 Bicycles \& cycles, no motor
8713 Carriages for disabled persons, motorized or not

8714 Parts \& access for cycles \& invalid carriages

8715 Baby carriages and parts thereof
8716 Trailers and semi-trailers, other vehicles, not mechanically propelled, parts thereof

## INTRODUCTION

Harmonized commodity description and coding system 87

The Harmonized commodity description and coding system (HS) is identified as an internationally used categorization of products. Classification of products is done through HS helps different countries to categorize products in a prevailing approach. HS is a classification method that comes in a sixdigit coding approach according to the international platform (WCO, 2020). Under HS 87 code vehicles other than railway or tramway rolling stock, and parts and accessories are listed. This chapter covers all the vehicles other than railway and tramway rolling stock and parts and accessories which is produced for running on rails (Customs.gov.lk. 2020). The automobile industry of a country plays a vital role in the development of socioeconomic development in the country.

The year 2020 negatively impacted the world automobile export industry. At the beginning of 2020 there were many difficulties for automobile production industry such as implementation of strong environment protection policies. The banking industry is also careful in lending money for automobile export firms. COVID-19 negatively impacted to the automobile industry severely. Both strict environment protection policies and COVID-19 fumbled the development of
the automobile industry in the year 2020 (Counterpoint Research, 2020).

## LITERATURE REVIEW

Germany HS 87 chapter
Germany is identified as the top country in the vehicle export industry with $18.8 \%$ out of the total car exports of the world in the year 2019 (Workman, 2020). The production level of cars in Germany was about 6 million in the year 2018 with an increment of $2.1 \%$ compared to the year 2017 (David, 2019). German is recognized as a branded car exporter around the world. The main importer of German cars is the United States. Leading brands in the world such as BMW, Volkswagen, and Mercedes are export products of Germany. Volkswagen brand produced by Germany is a world leading brand earning around 11 USD million sales units around the world in 2019 (Statista, 2020). 2020 January sales have increased from $5.0 \%$ compared to the same month last year (Marklines.com. 2020) But due to COVOID 19; $50 \%$ of the sales of vehicles and vehicle accessories dropped in the month of May, 2020 during the lockdown period (Counterpoint Research, 2020). Car exports of $17,600,000$ units in April and 240,304,000 in March 2020 are reported. April car export units of Germany has reduced compared to the March sales units (Ceicdata, 2020).

## Japan HS 87 chapter

Japan secured its ranking among the top three car manufacturing countries in the world since the year 1960. The automobile industry of Japan developed rapidly from the year 1970s to the 1990s. Leading vehicle brands exported from Japan are Nissan, Mazda, Honda, Toyota, Mitsubishi, Daihatsu, Lexus, Fuso, and Subaru. $89 \%$ of the manufacturing industry in the country is production of the automobiles. More than 5.5 million Japanese people are occupied in the
automobile manufacturing industry and it covers more than $8.7 \%$ of the employment in Japan. Japan produces raw materials for automobile production and also produces basic equipments for automobile production. Japan made Vehicle accessories and parts are highly significant in automobile market. Japan's automobile exports show a development until 2012 and a slight negative movement after 2012. The reason for this is recognized as downfall of yen and other leading automobile brand development in the world. Major vehicle exporters of Japan are Toyota, Nissan, and Honda. Japan's automobile industry diversifies its business in various sectors. Along with vehicles they produce vehicle accessories and vehicle parts. Denso is recognized as the largest vehicle accessory and parts manufacturer in Japan and also in the world. Denso Company produces electronic systems for automobiles which they are specialized with. Japan exports and accessories mainly go to European countries, North America and China. Vehicle parts manufacturers identified as tier- 1 suppliers are in a leading place internationally (Nelly, 2016).

Vehicle production of Japan significantly stated from the year 1955. Japan government also barred vehicle imports from other countries to develop Japan vehicle, accessory and parts exports and manufacturing market. Under the guidance of Ministry of International Trade \& Industry Japan diminished small scaler manufacturers through merging and developing the automobile industry into the current stage. In beginning of 1970s Japan exported vehicles more than one million units. Major importer of Japan vehicles of 1970s was United States. One reason for the gradual increment of Japan vehicle exports was Japan sell cars for a lower price range and the value of Yen of those days was also in a low level though the reputation of Japan cars were not in a high status. Japan vehicle exports
increased with these reasons (Crosscurrents, 2020).
Japan exported around 4.8 million vehicles in the year 2018. Which is significantly higher than 3.6 million compared to year 2009. The exports from Japan automobile industry most of the times consists of passenger cars. Passenger cars owns 4.4 million USD in value from 2018 exports (Mann, 2020). The exports of motor vehicles from Japan in the year 2019 dropped down and limited to 120,500 buses, 325,000 trucks, and 4.4 million passenger cars. Japan's vehicle exports dropped down to 4.8 million vehicles in 2019 (Statista, 2020).

In 2020 the automobile export industry of Japan had to face another decline. COVID-19 was the reason for this decrease in automobile industry. Biggest Challenge faced by Japan is managing the production level of automobile companies. Toyota one of the main vehicle exporter of Japan told that it's unpredictable how the world can change in a moment due to this kind of situation because the whole market of vehicle exports was changed entirely due to the COVID-19 virus. And Toyoda also said that they cannot predict the future vehicle export market for Japan. Europe production plant dropped down its production due to lockdown. Swindon production was stopped until April 5th by Honda vehicle manufacturing company in Japan. Money allocated for research and development became a waste of money for autonomous driving because of this COVID-19 (hindustantimes, 2020).

United States of America HS 87 chapter

The United States is one of the largest vehicle manufacturers and exporters in the world. More than 3000 vehicle manufacturers are in the industry of automobiles in United States (Woutat, 1985). Ford, Chrysler, and General Motors were the leading vehicle manufacturers in the United States in the 1900s. Thorstein

Veblen has stated a theory which conveys the social status of people is represented by their wealth. GM and Ford focused on a target market which was created by the wealthy social statuses of the country. Ford Company manufactured Model T in 1913 which dropped down the cost. Model T increased its sales amount by up to 15 million which made Ford one of the leading vehicle exporters and manufacturers in the United States. In 1908 General Motors were recognized as the world-famous vehicle exporter and manufacturer (Campanella, 2005).
In the year 2018 USA export light vehicles reached up to 17.2 million vehicle units. The United States secured its position as the second-largest vehicle manufacturer in the world. Honda vehicle Production Company opened in the United States in the year 1982. Major vehicle production companies from Japan, Europe, and Korea invested around \$75 billion in the United States. These foreign vehicle manufacturing companies help the United States economy by providing over 400,000 jobs. These foreign vehicle producers use engines produced in the United States. In the year 2018, the United States exports new light vehicles around 1.8 million and along with that of 131,200 heavy and medium trucks which worth more than $\$ 60$ billion. The exports of the United States cover above 200 markets around the world. The United States also exported vehicle parts worth more than $\$ 88.5$ billion. The United States is well recognized as a vehicle part exporter in the world (Selectusa, 2020).

In the year 2019, the USA reported a vehicle export of 192,210 units of new passenger vehicles and also light trucks for China. China is recognized as the secondlargest passenger vehicle exporting country after the USA (Statista. 2020). The vehicle exports and manufacturing industry of the United States dropped in the year 2020. Export was down from $38 \%$. Light vehicle export of the United

States was predicted to range between 14.5 million and 16.4 million light vehicle units. This drop-down is recognized as an impact of COVID-19. In the year 2019, 17 million light vehicles were sold from the United States. Main vehicle producers of the United States are General Motors, Ford, Detroit Three, and Chrysler LLC. In the 2020 first quarter, General Motors had the highest market share with respect to other vehicle exporters. Ford and Toyota had the highest market share after that (Statista. 2020).

In the year 2014 General Motors, Toyota, Ford, and Chrysler is recognized as the major vehicle exporters of the United States. These four produce the most number of vehicles in the United States. Chrysler leading vehicle manufacturers in the United States created Ram trucks and SUV Cherokee jeeps which developed a huge amount of sales in the year 2014 (Gutenberg, 2020). General Motors vehicle exporters and manufacturers sold its brand names Vauxhall, European, and Opel regarding the low level of profit earned from those brands (thestar.com. 2020, 2020). In the year 2015, General Motors closed down its five plants (IndustryWeek, 2020).

Coronavirus impacted all the industries in the world including vehicle, accessory, and parts exports and manufacturing industry. Because of the production process of these vehicles, accessories, and parts being stopped due to lockdown, the export level of vehicles was dropped down (Ltd., 2020). COVID-19 virus impacted the export level of vehicles and also the demand level for vehicles. Macroeconomic center team forecasted that the export level of vehicles, accessories, and parts will reduce between $14 \%-22 \%$ in the United States and other vehicle export countries in the year 2020 (BCG, 2020). 2020 1st quarter General motor vehicle exports value shows a drop comparing with the 1st quarter of 2019. United States exports 43,900 units of

Buick vehicles in the 2020 1st quarter (Statista, 2020). Compared to the 2019 1st quarter, Ford-badged vehicles exports has dropped down to 515,000 units from 583,000 units in 2020 1st quarter. The exports level of Ford-badged of the United States declined from $12 \%$ in the 2020 1st quarter. Lincoln-badged vehicle exports has gained an increment compared to 2019 1st quarter by manufacturing 700 Lincolnbadged vehicle units in 2020 1st quarter. Ford brand of the United States introduced a program allowing the vehicle system to postpone the payment need of customers because of the impact of coronavirus to the demand for vehicle exports. The loss resulted due to coronavirus is forecasted around two billion by Ford brand of the United States (Statista, 2020).
Research objectives
This study intends to study yearly trade behavior of HS87 exports of Germany, Japan and United States of America from 2015 to 2019. Furthermore it is expected to find out the behavior of HS87 exports and main HS exports categories of relevant countries during quarter one in 2020.

## METHODOLOGY

HS87 products' exports value data of Germany, Japan and United States of America is collected from ITC TRADE MAP to explore the behavior.

To study the behavior of HS87 export products in relevant countries in from 2015 to 2019, yearly e xports data is analyzed and studied. To investigate the behavior in the2020 first quarter, HS87 products' quarter one exports data from 2015 to 2019 is compared and studied against 2020 quarter one data.

To identify the growth rate of a relevant year and quarter following formulas are selected.

Growth rate in current year $=($ Current year exports value -Previous year exports value)/ (Previous year exports value)*100

Growth rate in current quarter $=$ (Current year exports value of the quarter -Previous year exports value of the relevant quarter)/ (Previous year exports value)*100

Contribution of a certain export product category to total HS87 export value decline during relevant quarter of a particular country following formula is selected.

Contribution of a major category to HS87 exports value decline during relevant quarter $=$ (Previous year major categories' exports value in the relevant quarter - Current year major categories' exports value in the quarter)/ (Previous year HS 87 products' exports value in the relevant quarter -Current year HS87 products' exports value of the quarter)* 100

If the relevant major product category of HS87 has increased it is not considered as a contribution to the decline and mentioned as increased.

## ANALYSIS AND DISCUSSION

Table 1- Top 3 exporters of HS87 products from 2015 to 2019

| 2019 | 2018 | 2017 | 2016 | 2015 |
| :--- | :--- | :--- | :--- | :--- |
| Germany | Germany | Germany | Germany | Germany |
| Japan | Japan | Japan | Japan | Japan |
| United <br> States of <br> America | United <br> States of <br> America | United <br> States of <br> America | United <br> States of <br> America | United <br> States of <br> America |

From 2015 to 2019 Germany is the leading exporter of vehicles and their parts other than railway or tramway rolling stock, and parts and accessories. Japan is the second largest exporter and United

States of America is the third largest exporter consecutively during 2015 to 2019 time period. Hence selected countries in this study are significant in term of export values and impact they can do to the world HS87 market.

| Exporters | Exporte d value in 2015 <br> (USD <br> billions) | Exporte d value in 2016 (USD billions) | Exporte d value in 2017 <br> (USD <br> billions) | Exporte d value in 2018 <br> (USD <br> billions) | Exporte d value in 2019 (USD billions) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Germany | 241.45 | 244.15 | 256.94 | 263.87 | 243.68 |
| Japan | 134.04 | 141.94 | 146.21 | 154.05 | 148.85 |
| United States of America | 127.39 | 124.70 | 130.39 | 130.73 | 133.04 |



Figure 1-HS 87 exports values of Germany, Japan and United States of America from 2015 to 2019 in USD
billions

According to the table 2 Germany is maintaining more than 90 USD billions gap with respect to both Japan and United states in between 2015 and 2019. But the gap of export value between Japan and United States of America is narrow that it is less than 25 Billion.

Table 3- HS 87 total exports share of Germany, Japan and United States of America from 2015 to 2019 with respect to world

| Exporters | Exported <br> value in 2015 <br> (USD <br> billions) | Exported <br> value in 2016 <br> (USD <br> billions) | Exported <br> value in 2017 <br> (USD <br> billions) | Exported <br> value in 2018 <br> (USD <br> billions) | Exported <br> value in 2019 <br> (USD <br> billions) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| World | 1325.76 | 1351.76 | 1452.50 | 1536.77 | 1495.53 |
| Top 3 | 502.89 | 510.79 | 533.54 | 548.65 | 525.57 |
| Percentage | $37.93 \%$ | $37.79 \%$ | $36.73 \%$ | $35.70 \%$ | $35.14 \%$ |

Considering total exports values of Germany, Japan and United States of America they own more than 500 Billion USD by exporting under HS 87 during 2015-2019. As a percentage with respect to world exports value, Germany, Japan and United States of America own more than $35 \%$. Hence the world supply of Vehicles and parts highly relay on

|  | Exported <br> value in <br> Exporters <br> (U15-Q1 <br> (USD <br> billions) | Exported <br> value in <br> 2016-Q1 <br> (USD <br> billions) | Exported <br> value in <br> 2017-Q1 <br> (USD <br> billions) | Exported <br> value in <br> 2018-Q1 <br> (USD <br> billions) | Exported <br> value in <br> 2019- <br> Q1(USD <br> billions) | Exported <br> value in <br> 2020-Q1 <br> (USD <br> billions) | Growth <br> rate <br> 2020-Q1 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Germany | 60.76 | 59.70 | 61.35 | 71.56 | 64.28 | 56.04 | - |
| Japan | 31.52 | 33.13 | 34.50 | 38.97 | 37.15 | 34.76 | $-6.89 \%$ |
| United <br> States of <br> America | 34.00 | 29.48 | 31.11 | 33.15 | 32.82 | 30.41 | $-7.95 \%$ |

Considering the quarter one exports values of Germany from 2015 to 2019 lowest value recorded in 2020. For all the years in the given time period export value was over 59 USD billion. With respect to 2019 quarter one export value has reduced by $14.7 \%$

Japan had a continuous growth from 2015 up to 2018 quarter one. But in 2019 quarter one exports value decreased to 37.15 USD billion from 38.97 USD billion recorded in 2018. Even in 2020 quarter one the exports value has declined by $6.69 \%$ with respect to 2019 quarter one.

United Nation of America has fluctuations in exports value during quarter one from 2015 to 2020. In 2020

Germany, Japan and United States of America
Table 4- HS 87 exports values of Germany, Japan and United States of America from 2015 to 2020 during Q1

| Code | Exported value <br> in 2019-Q1 (USD <br> billions) | Exported <br> value in 2020- <br> Q1 (USD <br> billions) | Growth rate <br> 2020-Q1 | Contribution to <br> decline of total <br> HS 87 |
| :---: | :---: | :---: | :---: | :--- |
| $' 8703$ | 24488515 | 22852005 | $-6.68 \%$ | $68.31 \%$ |
| $' 8708$ | 8152021 | 7508606 | $-7.89 \%$ | $26.85 \%$ |
| $' 8704$ | 2152976 | 1898594 | $-11.82 \%$ | $10.61 \%$ |
| $' 8711$ | 753296 | 787809 | $4.58 \%$ | Increased |
| $' 8702$ | 501736 | 666298 | $32.80 \%$ | Increased |
| $' 8701$ | 449174 | 437727 | $-2.55 \%$ | $0.47 \%$ |
| $' 8714$ | 407036 | 390184 | $-4.14 \%$ | $0.70 \%$ |
| $' 8706$ | 84721 | 85271 | $0.65 \%$ | Increased |
| $' 8707$ | 85420 | 69413 | $-18.74 \%$ | $0.66 \%$ |
| $' 8705$ | 43883 | 27817 | $-36.61 \%$ | $0.67 \%$ |
| $' 8709$ | 11239 | 13281 | $18.17 \%$ | Increased |
| $' 8716$ | 14016 | 11956 | $-14.70 \%$ | $0.08 \%$ |
| $' 8712$ | 11450 | 11218 | $-2.03 \%$ | $0.01 \%$ |
| $' 8713$ | 797 | 586 | $-26.47 \%$ | $0.01 \%$ |
| $' 8715$ | 118 | 83 | $-29.66 \%$ | $0.001 \%$ |
| $' 8710$ | 0 | 0 | - | - |

In Japan the top five exports products under HS code 87 during quarter one 2020 are HS 8703 products, HS 8708 products, HS 8704 products, HS 8711 products and HS 8702 products. Out of the sixteen products eleven products have negative growth rates.

Highest individual decline rate is recorded for HS 8705 product category and it is $36.61 \%$. HS 8703 and HS 8708 are having the highest contributions to Japan's decline recorded in 2020 quarter one with respect to 2019 quarter one for HS 87 product category. $68.31 \%$ and $26.85 \%$ are the relevant contributions.

Out of the positively grown exports HS 8702 is the most significant product that it owns $32.08 \%$ individual growth rate in 2020 quarter one.

Table 6- Analysis for export product categories under HS87 of Germany from 2019 to 2020 during Q1

| Code | Exported <br> value in 2019- <br> Q1 (USD <br> billions) | Exported <br> value in 2020- <br> Q1 (USD <br> billions) | Growth <br> rate 2020- <br> Q1 (USD <br> billions) | Contribution to <br> decline of total HS <br> 87 |
| :--- | :--- | :---: | :---: | :--- |
| '8703 | 37368222 | 32766872 | $-12.31 \%$ | $55.83 \%$ |
| $' 8708$ | 16392191 | 14146274 | $-13.70 \%$ | $27.25 \%$ |
| $' 8704$ | 3031347 | 2444975 | $-19.34 \%$ | $7.12 \%$ |
| $' 8701$ | 2343430 | 1921998 | $-17.98 \%$ | $5.11 \%$ |
| $' 8716$ | 1830276 | 1276840 | $-30.24 \%$ | $6.72 \%$ |
| $' 8705$ | 961896 | 852920 | $-11.33 \%$ | $1.32 \%$ |
| $' 8711$ | 695857 | 708703 | $1.85 \%$ | Increased |
| $' 8707$ | 376396 | 287925 | $-23.50 \%$ | $1.07 \%$ |
| $' 8714$ | 238659 | 227296 | $-4.76 \%$ | $0.14 \%$ |
| $' 8702$ | 281442 | 188965 | $-32.86 \%$ | $1.12 \%$ |
| $' 8712$ | 172420 | 155620 | $-9.74 \%$ | $0.20 \%$ |
| $' 8709$ | 39249 | 34196 | $-12.87 \%$ | $0.06 \%$ |
| $' 8713$ | 39991 | 33979 | $-15.03 \%$ | $0.07 \%$ |
| $' 8715$ | 27270 | 31884 | $16.92 \%$ | Increased |
| $' 8706$ | 26805 | 26445 | $-1.34 \%$ | $0.00 \%$ |
| $' 8710$ | 0 | 0 | - | $0.00 \%$ |

The top five export products of Germany in 2020 quarter one are HS8703 products, HS8708 products, HS8704 products, HS87166 products and HS8701 products. Out of the sixteen products under HS87, thirteen products have declined with respect to quarter one export values in 2019.

Highest individual decline rate is recorded with HS8702 products. The decline rate for HS8702 is $32.86 \%$. HS 8716 is having a significant decline rate of 30.24\%. HS8703 and HS8708 are having the highest contributions to the decline under HS87 reported in 2020 quarter one with respect 2019 quarter one. $55.83 \%$ and $27.25 \%$ are the relevant contributions.

HS8715 products have increased their exports values by $16.92 \%$ during first quarter in 2020 with respect to 2019 quarter one.

Table 7- Analysis for export product categories under HS87 of United States of America from 2019 to 2020 during Q1

| Code | Exported <br> value in 2019- <br> Q1 (USD <br> billions) | Exported <br> value in 2020- <br> Q1 (USD <br> billions) | Growth <br> rate 2020-Q1 | Contribution <br> to decline of <br> total HS 87 |
| :---: | :---: | :---: | :---: | :---: |
| $' 8703$ | 13116723 | 12778231 | $-2.58 \%$ | $14.00 \%$ |
| '8708 | 10954542 | 9593721 | $-12.42 \%$ | $56.29 \%$ |
| $' 8704$ | 4407115 | 4429954 | $0.52 \%$ | Increased |
| $' 8701$ | 1642079 | 1114982 | $-32.10 \%$ | $21.80 \%$ |
| $' 8716$ | 956466 | 784567 | $-17.97 \%$ | $7.11 \%$ |
| $' 8705$ | 475230 | 448239 | $-5.68 \%$ | $1.12 \%$ |
| $' 8710$ | 215313 | 248847 | $15.57 \%$ | Increased |
| $' 8707$ | 180363 | 241198 | $33.73 \%$ | Increased |
| $' 8702$ | 199245 | 220679 | $10.76 \%$ | Increased |
| $' 8711$ | 324631 | 207906 | $-35.96 \%$ | $4.83 \%$ |
| $' 8714$ | 213636 | 200224 | $-6.28 \%$ | $0.55 \%$ |
| $' 8709$ | 79188 | 85827 | $8.38 \%$ | Increased |
| $' 8712$ | 24279 | 19563 | $-19.42 \%$ | $0.20 \%$ |
| $' 8713$ | 17463 | 19050 | $9.09 \%$ | Increased |
| $' 8706$ | 14945 | 9738 | $-34.84 \%$ | $0.22 \%$ |
| $' 8715$ | 7654 | 8455 | $10.47 \%$ | Increased |

Top five products under HS87 category for United States of America in 2020 quarter one are HS8703 products, HS8708 products, HS8704 products, HS8701 products and HS8716 products. Out of sixteen export products of HS87 category nine have declined during 2020 quarter one.

HS8711 has the highest individual decline rate with $35.96 \%$. Decline rates of HS8706 and HS8701 are significant that they have decline rates $34.84 \%$ and $32.10 \%$ respectively. The highest contribution to the decline amount under HS87 products occurred because of HS8708 products. The contribution is 56.29\%. HS8701 gives 21.8\% contribution to the decline amount under HS87.

Though nine products have lost their values during 2020 quarter one, HS8707
products have gained a significant growth of $33.73 \%$.

## CONCLUSION

From 2015 to 2019 Germany, Japan and United States are the leading world exporters in HS87 products. Germany is the largest HS87 product exporter in the world. Second and third are consecutively Japan and Units States of America. The contribution of the top three countries is significant that for five years $35 \%$ of world HS87 exports relay on them.

During quarter one in 2020 HS87 exports values of three countries have declined from significant amount. Germany has the largest decline rate of exports value with respect to 2019 quarter one which is $14.70 \%$ Japan has declined by $6.89 \%$ and United States of America by 7.95\%

Top five HS87 Japanese export products in quarter one 2020 are HS 8703 products, HS 8708 products, HS 8704 products, HS 8711 products and HS 8702 products. Eleven major product categories have declined out of sixteen and the highest rate is for HS8705 with $36.61 \%$. HS8703 products contribute to the HS87 exports value decline by $68.315 \%$.
The top five German HS87 export products in 2020 quarter one are HS8703 products, HS8708 products, HS8704 products, HS87166 products and HS8701 products. Out of sixteen major product categories of HS87, thirteen have declined. HS8702 has the highest declined rate of $32.86 \%$. HS8703 precuts contribute $55.83 \%$ of the HS87 exports value decline in Germany.
Top five American HS87 export products in 2020 quarter one are HS8703 products, HS8708 products, HS8704 products, HS8701 products and HS8716 products. Out of sixteen export products of HS87 category nine have declined during 2020 quarter one. HS8711 has the highest decline rate of $35.96 \%$. HS8708 products contribute from $56.29 \%$ to the HS87 product exports decline in United States of America.

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