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The Market for Vanilla in Germany and the United States

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List of abbreviations

| | |
|-------|--|
| AVG | AVERAGE |
| B | BILLION |
| C & F | COST & FREIGHT |
| CBI | CENTRUM BEVORDERING IMPORT (NETHERLANDS) |
| CFR | CODE OF FEDERAL REGULATIONS |
| CIF | COST INSURANCE FREIGHT |
| CM | CENTIMETER |
| COAS | CERTIFICATES OF ANALYSIS |
| EPA | ECONOMIC PARTNERSHIP AGREEMENTS |
| EST | ESTIMATED |
| EU | EUROPEAN UNION |
| € | EURO |
| FAO | FOOD AND AGRICULTURAL ORGANIZATION |
| FDA | FOOD AND DRUG ORGANIZATION |
| FOB | FREE ON BOARD |
| GSP | GENERAL SYSTEM OF PREFERENCES |
| HS | HARMONIZED COMMODITY DESCRIPTION AND CODING SYSTEM |
| K | THOUSAND |
| KG | KILOGRAM |
| MIL | MILLION |
| MFN | MOST FAVORED NATION |
| MT | METRIC TON |
| SITC | STANDARD INTERNATIONAL TRADE CLASSIFICATION |
| SPS | SANITARY AND PHYTO-SANITARY |
| T | TON |
| US | UNITED STATES |

US\$ UNITED STATES DOLLAR
WTO WORLD TRADE ORGANIZATION
YR YEAR

Executive summary

Vanilla is a widely used commodity that is traded internationally and sold in numerous forms including cured vanilla beans, extracts, pastes, powders, and seedlings. In the United States (US) and Germany, vanilla is primarily used as a flavoring in foods, beverages, and perfumes as well as in certain industrial applications such as tire and paint manufacturing. More than 95% of the vanilla consumed in the US is processed into extracts sold to manufacturers for flavoring.

Vanilla is generally only grown in regions located 10-20 degrees north or south of the equator. Madagascar and Indonesia are among the largest producers and exporters of vanilla. It is also important to note that Germany is a top exporter, re-exporting 84% of its imported vanilla supply to other European nations; primarily France, Switzerland, and Denmark.

The US is the largest importer of vanilla, importing as much as 40% of the world's annual vanilla production. Germany ranks number three in terms of total vanilla imported and accounts for 13% of the world's total vanilla bean imports in 2011. Furthermore, consumption in both the US and Germany significantly increased from 2005 to 2009. During this five-year period, the US observed a 22% increase in consumption and in Germany, an astounding 100% increase was recorded.

Although tariffs are typically not applied to vanilla entering the US or Germany, other barriers do exist. For example, the FDA, the FAO of the United Nations, and ISO have all set similar standards to regulate and control vanilla quality. Individual importers and countries may possess other non-tariff barriers such as increased documentation or certification requirements, which will dictate exporters' standards and processes.

The Eastern part of the US and the German seaports of Emden, Bremen, and Hamburg are major centers for vanilla trade and imports. Brokers in producing countries ship vanilla to company-owned warehouses in the US and Germany. Most firms in the international vanilla industry prefer to source from national suppliers in order to reduce the complexity involved with returning substandard products.

Vanilla is one the most expensive spices traded internationally. The price of vanilla has been unstable since 2000, when a rash of environmental disasters impacted the world's top producers. As a result, prices have been very unpredictable. Currently, vanilla market growth projections are largely flat but are expected to recover when global economic conditions improve.

Demand for low-cost synthetic vanilla or vanillin is on the rise. While technological innovations may reduce the complexity and cost of cultivating natural vanilla, synthetic vanillin accounts for more than 50% of the German vanilla flavoring market and similar trends have been observed in the US. Consumer awareness and appreciation for natural products is also increasing in these markets, but the price advantage of synthetics cannot be ignored.

1 Product description

This market brief covers the market for vanilla in the US and Germany. Vanilla is classified under the following codes:

- HS: 090500 Vanilla;
- SITC: 07521 Vanilla (beans).

Vanilla is a perennial orchid and a vine that climbs and attaches to tree trunks and other supports by its fleshy roots. The greenish-yellow flowers are about two inches (five cm) across. The flowers last only one day and must be hand-pollinated to produce a seedpod, the “vanilla bean”. The vanilla flower is self-fertile, but incapable of self-pollination without the aid of an outside agency to either transfer the pollen from the anther to the stigma or to lift the flap or rostellum then press the anther against the stigma. The fruits (pods) are about six to nine inches long and usually referred to as vanilla beans. The vanilla plants start producing fruit only when it is mature, generally larger than ten feet. After the seedpods mature, in about five months, they are harvested and go through a curing process that ferments and then dries them while retaining the maximum amount of essential oils (NTBG, n.d.).

Vanilla was introduced to the Spanish conquistador Hernan Cortez by Montezuma in 1520 and then to Europe by Cortez. It grew to be a favorite flavor for sweets, as it still is today. Spanish “vanilla” is a diminutive of “vaina” which means “sheath” or “pod”. This refers to the sheath-like shape of the fruit. The species name, “planifolia”, refers to the striking flat shape of the leaves. The plant parts used are the ripe fruit. The pod is frequently called a bean. Most of the fragrance resides in the seeds and the oily liquid surrounding the seeds.

Vanilla is generally used as a flavoring. Commercially, vanilla is used in various forms: whole cured vanilla beans, extractions, powders, pastes, and the seeds themselves. However, the three main commercial preparations of natural vanilla are whole pod, powder, and extract. In addition to flavoring, vanilla also has many industrial applications such as concealing the strong smell of rubber tires, paint, and cleaning products.

Vanilla extract, the most commonly used form of vanilla, is made by percolating alcohol and water through chopped, cured beans, somewhat like making coffee. Vanilla extract is very powerful, a few drops sufficing for most uses. FDA standards require that pure vanilla extract contains 13.35 ounces of vanilla beans per gallon during extraction and 35% of alcohol.

Vanilla beans can also be used directly. Using a vanilla bean is more time consuming than using extract, but imparts the strongest vanilla flavor without the alcohol of extract. Vanilla powder is produced by grinding the whole, dried bean.

The fermented fruit of vanilla contains about 2% vanilla, depending on the country of origin. For example, Mexico generally contains 1.75%, Sri Lanka 1.5%, and Indonesia 2.75%. In vanilla pods of exceptionally good quality, the crystallized vanilla may be visible on the surface in the form of tiny white needles (called “givre” from the French word for “frost”). About 130 additional compounds have been identified in natural vanilla extract and even trace components can make a significant impact. For example, the quite different fragrance of Tahitian Vanilla is due to its additional contents of piperonal (heliotropin, 3,4-dioxymethylenbenzaldehyd) and diacetyl (butandione). Vanilla additionally contains 25% of sugars, 15% fat, 15-30% cellulose, and 6% minerals (NTBG, n.d.).

There are various regulations that pertain to the standards of vanilla in different countries. For example, the FDA in the US requires that vanilla extract shall be made from vanilla beans. Some “vanilla extracts”, especially ones from Mexico, are made from Tonka beans and contain a toxic ingredient called coumarin. Import of this substance is illegal and it cannot be used even in imitation vanilla extracts. The standards and regulations governing what is considered to be vanilla are explored further in chapter four.

There are two types of vanilla beans used for flavoring, Bourbon and Tahitian. Bourbon Vanilla (*Vanilla planifolia*) is primarily cultivated in Madagascar, the Comoros, and Réunion. It is the thinnest of the bean types and is quite rich and sweet. It is characterized by the most intensive, balanced, and somewhat “dark” flavor. Tahitian Vanilla (*Vanilla tahetensis*) originates from French Polynesia. It is the thickest and darkest of the vanilla types and is intensely aromatic, but not as flavorful. Tahitian beans provide a burst of intense vanilla flavor whereas Bourbon beans tend to be used when a touch of vanilla flavoring is desired. Tahitian vanilla has a more floral vanilla fragrance that stands apart from the other types.

The basic production process for vanilla is as follows:

1. Harvest: The pods are harvested while green and immature. At this stage, they are odorless.
2. Killing: The vegetative tissue of the vanilla pod is killed to prevent further growing. The method of killing varies, but may be accomplished by exposure to sunlight, oven heating, hot water, scratching, or freezing. The method of “hot water scalding” usually gives the best product.
3. Sweating: The pods are held for 7-10 days under hot (45°-65°C or 115°-150°F) and humid conditions; pods are often placed into fabric-covered boxes immediately after boiling. This allows enzymes to process the compounds in the pods into vanillin and other compounds important to the final vanilla flavor.
4. Drying: To prevent rotting and to lock the aroma in the pods, the pods are dried. Often, pods are laid out in the sun during the mornings and returned to their boxes in the afternoons. The pods have completed the curing process and will exhibit their fullest aromatic qualities when 25-30% of their weight is moisture (as opposed to the 60-70% they began drying with). This is the longest stage in the curing process, taking one to six months, depending on the drying method.

5. Grading: Once fully cured, the vanilla is sorted by quality and graded.

Within each type of bean, there are also several quality grades. A greater understanding of the types of beans as well as quality grades must thus be examined; namely:

- Grade A quality beans are usually black and have no surface alterations. They are generally considered to be a 'whole' bean and are oftentimes categorized as organic. The beans contain a moisture content of around 25-35%. Grade A beans generally tend to be longer in length (about 7 inches longer for Bourbon and about 6 inches longer for Tahitian beans). Grade A contains the highest quality bean and is also considered the most expensive product.
- Grade B quality beans tend to be chocolate brown in color (which is indicative of a lower moisture level than in Grade A beans), the regular moisture level is around 18-25%. The beans may have slight alterations such as small surface dents, splits, tears, or marks. Grade B beans are mid-range in both quality and price.
- Grade C quality beans are the lowest categorized quality grade of vanilla beans. Thus, major dents, splits, tears, or marks may appear on these beans. Moreover, they have limited moisture; if any. Grade C beans are generally smaller in length and are only recommended for use in bi-products such as soap and candles.

2 Production, foreign trade and consumption

Production

Indonesia accounts for most of the global production of vanilla, in total contributing 58% to the world production in 2009. In the same year, Madagascar, once the leading producer of natural vanilla and now the second largest producer, produced 2,830 tons of vanilla, which constituted 23% of the world production.

Prices will vary depending on quality, quantity, and also availability. The average price per kilo of vanilla is with US\$210.49 the highest in French Polynesia, followed by Madagascar with US\$22.25. Table 1 provides an overview of the top vanilla producers and prices per kilo in 2009. It should be noted that price data on countries such as Comoros, Malawi, and Zimbabwe are not available. As far as the price for Guadelupe is concerned, the Mexican price is applied, since such information is not listed separately from Mexico's price level.

Table 1: Top Vanilla Producers in 2009

| Rank | Area | Production (in US\$100) | Production (MT) | % | Avg. price/kg (in US\$) |
|------|------------------|----------------------------|--------------------|--------|----------------------------|
| 1 | Indonesia | 72,415 | 4,362 | 44.44% | 12.33 |
| 2 | Madagascar | 46,981 | 2,830 | 28.83% | 22.25 |
| 3 | China | 22,943 | 1,382 | 14.08% | 12.33 |
| 4 | Mexico | 8,699 | 524 | 5.34% | 7.51 |
| 5 | Tonga | 4,366 | 263 | 2.68% | 15.54 |
| 6 | Turkey | 3,569 | 215 | 2.19% | 3.96 |
| 7 | French Polynesia | 1,228 | 74 | 0.75% | 210.49 |
| 8 | Comoros | 1,079 | 65 | 0.66% | - |
| 9 | Uganda | 796 | 48 | 0.49% | 17.76 |
| 10 | Malawi | 249 | 15 | 0.15% | - |
| 11 | Kenya | 199 | 12 | 0.12% | 1.06 |
| 12 | Rèunion | 199 | 12 | 0.12% | - |
| 13 | Guadelupe | 132 | 8 | 0.08% | 7.51 |
| 14 | Zimbabwe | 83 | 5 | 0.05% | - |

Source: UN Food & Agriculture Organization

Foreign trade

World exports

Madagascar is the major supplier of vanilla to the world. It exported about 61.35% of the total world share in 2011. However, the main exporting countries do not necessarily have to be producing countries. For example, France and Germany re-export their importing share to other European countries because re-exporting the finished product basically generates profits without running risks associated with the primary production. The main re-exporting countries of vanilla are France, Germany, Canada, and the US.

From the data offered, the estimated current value per ton is highest in Germany with US\$44,406, followed by France with US\$34,344. Since France and Germany are the leading re-exporting countries of vanilla, the high value per ton is acceptable in terms of distribution costs. As a leading country of vanilla production, Indonesian origin vanilla has the lowest value with US\$12,592 per ton.

Table 2: Top Ten Exporting Countries of Vanilla

| Export country | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | Current Value/t (US\$ k) | 5 year avg. price/t (US\$ k) |
|----------------|---------|------------------------|---------|------------------------|---------|------------------------|---------|------------------------|---------|------------------------|----------------------------------|--------------------------------------|
| | Qty (t) | Value (US\$ k) | Qty (t) | Value (US\$ k) | Qty (t) | Value (US\$ k) | Qty (t) | Value (US\$ k) | Qty (t) | Value (US\$ k) | | |
| Madagascar | 1,813 | 47,350 | 1,221 | 39,665 | 3,085 | 48,962 | 2,228 | 50,588 | 2,048 | 44,074 | 21,521 | 23,740 |
| France | 221 | 12,965 | 438 | 17,192 | 457 | 14,123 | 469 | 15,814 | 643 | 15,653 | 34,344 | 37,376 |
| EU (27) | 193 | 13,279 | 431 | 16,016 | 416 | 10,684 | 491 | 14,178 | 588 | 12,810 | 21,786 | 36,346 |
| Indonesia | 278 | 5,347 | 499 | 5,892 | 540 | 6,066 | 421 | 5,565 | 404 | 5,087 | 12,592 | 13,617 |
| Canada | 94 | 2,288 | 129 | 4,500 | 244 | 5,509 | 271 | 6,799 | 327 | 7,978 | 24,398 | 26,258 |
| Germany | 163 | 11,607 | 213 | 10,351 | 268 | 1,0421 | 310 | 12,965 | 315 | 13,988 | 44,406 | 48,984 |
| India | 101 | 2,209 | 110 | 3,635 | 1,074 | 6,411 | 449 | 8,955 | 259 | 5,689 | 21,965 | 20,559 |
| Uganda | 234 | 6,135 | 195 | 4,808 | 422 | 6,262 | 192 | 3,039 | 254 | 4,908 | 19,323 | 20,173 |
| Netherlands | 49 | 3,828 | 7 | 274 | 18 | 6,19 | 105 | 1,592 | 157 | 3,749 | 23,879 | 38,139 |
| US | 167 | 7,755 | 139 | 2,954 | 132 | 3,081 | 178 | 3,718 | 157 | 3,609 | 22,987 | 26,981 |

Source: UN Food & Agriculture Organization

World imports

The US is the largest market for vanilla and imports about 40% of world vanilla production, worth US\$40,670m in 2011. France is the second largest importer of vanilla beans with 19% of the world's imports. Germany's imports total 13%.

Switzerland imports vanilla with the highest value per ton, US\$44,574, followed by Japan with US\$42,629. Belgium, which imports vanilla mainly from Germany or France, pays a considerably higher price compared to the rest of the major importing countries. The price per ton in imports has also been slightly decreasing in most countries during the five-year review period from 2005 to 2009.

Table 3: Top Ten Importing Countries of Vanilla

| Import country | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | Current Value per t (US\$) | 5 year avg. price/t (US\$) |
|----------------|---------|--------------|---------|--------------|---------|--------------|---------|--------------|---------|--------------|----------------------------|----------------------------|
| | Qty (t) | Value (US\$) | Qty (t) | Value (US\$) | Qty (t) | Value (US\$) | Qty (t) | Value (US\$) | Qty (t) | Value (US\$) | | |
| US | 1,506 | 49,759 | 1,554 | 44,387 | 2,260 | 43,760 | 1,998 | 41,927 | 1,786 | 39,745 | 22,254 | 24,841 |
| EU (27) | 832 | 31,791 | 1,334 | 39,521 | 1,614 | 36,275 | 1,523 | 40,730 | 1,513 | 37,303 | 24,655 | 28,342 |
| France | 545 | 20,866 | 791 | 25,912 | 997 | 21,859 | 979 | 25,530 | 942 | 23,405 | 24,846 | 28,779 |
| Germany | 271 | 12,935 | 422 | 14,186 | 578 | 15,069 | 498 | 13,022 | 532 | 12,870 | 24,192 | 31,552 |
| Canada | 122 | 3,167 | 248 | 5,443 | 493 | 7,767 | 522 | 7,524 | 574 | 9,839 | 17,141 | 19,043 |
| UK | 77 | 3,860 | 174 | 2,563 | 135 | 3,781 | 138 | 4,165 | 323 | 5,469 | 16,932 | 27,996 |
| Japan | 112 | 8,478 | 118 | 7,584 | 112 | 5,050 | 108 | 5,335 | 105 | 4,476 | 42,629 | 55,417 |
| Belgium | 78 | 1,977 | 96 | 2,401 | 110 | 3,043 | 136 | 3,982 | 124 | 4,160 | 33,548 | 27,170 |
| Netherlands | 754 | 4,662 | 525 | 3,468 | 204 | 2,838 | 216 | 3,404 | 110 | 2,975 | 27,045 | 13,901 |
| Switzerland | 50 | 3,398 | 43 | 2,187 | 52 | 2,547 | 46 | 2,321 | 61 | 2,719 | 44,574 | 52,566 |

Source: UN Food & Agriculture Organization

German and US trade

Germany

The major supplier of vanilla to Germany is Madagascar. In 2009, 42% of vanilla imported into Germany was of Madagascar origin. A considerable amount also comes from India (15.4%) and Indonesia (12.4%). Surprisingly, Germany has been importing a significant amount of vanilla from France, which is also a major importing country. In 2009, Germany imported about 12% of the total value of German imports from France.

Table 4: Germany's Vanilla Import Sources

| Countries of Import | 2005 (US\$) | 2006 (US\$) | 2007 (US\$) | 2008 (US\$) | 2009 (US\$) |
|---------------------|-------------|-------------|-------------|-------------|-------------|
| Madagascar | 4,857 | 4,592 | 5,507 | 3,454 | 5,410 |
| India | 86 | 1,987 | 1,667 | 2,303 | 1,976 |
| Indonesia | 1,069 | 1,428 | 1,104 | 1,855 | 1,598 |
| France | 3,746 | 1,984 | 2,122 | 1,951 | 1,556 |
| Uganda | 1,195 | 2,187 | 1,805 | 989 | 692 |
| French Polynesia | 342 | 300 | 771 | 632 | 472 |
| Comoros | 544 | 414 | 659 | 704 | 331 |
| Netherlands | 99 | 250 | 260 | 214 | 144 |
| US | 102 | 154 | 114 | 12 | 83 |

Source: FAOSTAT

Table 5: Germany's Vanilla Import Values

| Period | Trade Value (US\$) | Net Weight (kg) | Avg. price/kg (US\$) |
|--------|--------------------|-----------------|----------------------|
| 2006 | 14,296,000 | 425,855 | 34 |
| 2007 | 15,138,000 | 578,082 | 26 |
| 2008 | 12,955,000 | 497,754 | 26 |
| 2009 | 12,983,000 | 530,641 | 24 |
| 2010 | 17,659,066 | 683,208 | 26 |

Source: UN Comtrade Database

Germany's average importing price per kg of vanilla has been fairly consistent from 2007 through 2010, equaling US\$26 in 2007, 2008, and 2010 as well as US\$24 in 2009.

As far as re-exporting intensity is concerned, Germany and France are important trading partners for both each other and for other European countries. Germany, as a middle trading country of vanilla products, re-exported 84.25% to European countries, mostly to France, Switzerland, Denmark, Italy, and Austria. Among the non-European countries, Germany exported mostly to the US (7.14%).

Table 6: Germany's Vanilla Export Partners

| Countries of Export | 2005 (US\$ k) | 2006 (US\$ k) | 2007 (US\$ k) | 2008 (US\$ k) | 2009 (US\$ k) |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| France | 1,504 | 1,075 | 2,338 | 1,772 | 3,374 |
| Switzerland | 1,977 | 1,797 | 1,383 | 1,617 | 2,290 |
| Denmark | 1,989 | 1,018 | 887 | 2,134 | 1,975 |
| Italy | 983 | 648 | 589 | 1,175 | 1,103 |
| Austria | 904 | 698 | 676 | 1,056 | 1,009 |
| US | 313 | 909 | 913 | 1,369 | 997 |
| Netherlands | 1,196 | 1,323 | 1,294 | 1,097 | 749 |
| Japan | 486 | 744 | 535 | 721 | 684 |
| Sweden | 363 | 255 | 214 | 365 | 422 |
| UK | 284 | 321 | 372 | 401 | 367 |
| Poland | 311 | 275 | 242 | 140 | 149 |
| Hungary | 23 | 85 | 135 | 172 | 130 |
| Belgium | 135 | 169 | 165 | 187 | 110 |
| Canada | 494 | 176 | 134 | 256 | 109 |
| Norway | 186 | 99 | 132 | 89 | 107 |

Source: FAOSTAT

Table 7: Germany's Vanilla Export Values

| Period | Trade Value (US\$) | Net Weight (kg) | Avg. price/kg (US\$) |
|--------|--------------------|-----------------|----------------------|
| 2006 | 10,775,000 | 224,198 | 48 |
| 2007 | 10,477,000 | 268,595 | 39 |
| 2008 | 12,881,000 | 311,347 | 41 |
| 2009 | 14,050,000 | 320,576 | 44 |
| 2010 | 12,885,787 | 307,975 | 42 |

Source: UN Comtrade Database

The United States

Madagascar is also the key supplier of vanilla to the US market, even though the import quantity has been slightly decreasing since 2005. In 2009, only 68% of vanilla imported into the US was from Madagascar; which represents about an average annual decrease of 4% compared to 2005. On the other hand, Uganda is regarded a promising importing partner to the US, as the total value of import has increased from US\$2.9m in 2005 to US\$5.3m in 2009.

Table 8: US Vanilla Import Sources

| Countries of Import | 2005 (US\$k) | 2006 (US\$k) | 2007 (US\$k) | 2008 (US\$k) | 2009 (US\$k) |
|----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Madagascar | 35,884 | 30,354 | 32,146 | 28,389 | 27,192 |
| Uganda | 2,919 | 3,055 | 3,927 | 3,786 | 5,377 |
| Indonesia | 3,223 | 4,751 | 3,780 | 4,546 | 3,610 |
| India | 1,099 | 2,809 | 1,875 | 3,192 | 2,210 |
| French Polynesia | 419 | 110 | 415 | 424 | 422 |
| Comoros | 840 | 694 | 37 | 332 | 363 |
| Papua New Guinea | 1,205 | 1,423 | 1,221 | 804 | 331 |
| France | 3,022 | 862 | 33 | 89 | 65 |
| Germany | 255 | 184 | 148 | 165 | 42 |

Source: FAOSTAT

The average importing price per kg of vanilla in the US was US\$21 in 2010, which was lower than the level of prices in Germany. A possible causative factor explaining the overall price difference could be that Germany prefers Grade A quality products, whereas the majority of imports reaching the US include Grade B or C quality products.

Table 9: US Vanilla Import Values

| Period | Trade Value (US\$) | Net Weight (kg) | Ave price/kg (US\$) |
|---------------|---------------------------|------------------------|----------------------------|
| 2006 | 44,386,572 | 1,553,674 | 29 |
| 2007 | 43,759,633 | 2,260,441 | 19 |
| 2008 | 41,927,406 | 1,998,006 | 21 |
| 2009 | 39,745,318 | 1,786,388 | 22 |
| 2010 | 37,928,276 | 1,781,417 | 21 |

Source: UN Comtrade Database

Not surprisingly, Canada, the US' largest trading partner, receives the highest amount of vanilla from the US. Canada is followed by Germany.

Table 10: US Vanilla Export Partners

| Countries of Export | 2005 (US\$k) | 2006 (US\$k) | 2007 (US\$k) | 2008 (US\$k) | 2009 (US\$k) |
|----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Canada | 786 | 905 | 1,625 | 1,440 | 1,890 |
| Germany | 113 | 367 | 256 | 546 | 467 |
| France | 374 | 966 | 518 | 671 | 239 |
| Netherlands | 1,170 | 20 | 14 | 296 | 213 |
| Australia | 141 | 18 | 45 | 0 | 179 |
| Republic of Korea | 28 | 119 | 6 | 35 | 159 |
| Belgium | 71 | 17 | 0 | 76 | 122 |
| United Kingdom | 653 | 20 | 14 | 55 | 111 |

Source: FAOSTAT

The average exporting price per kg of vanilla in the US was US\$26 in 2010 and has not had huge fluctuation. The price per kg also does not show great variation from the importing price per kg.

Table 11: US Vanilla Export Values

| Period | Trade Value (US\$) | Net Weight (kg) | Ave price/kg (US\$) |
|--------|--------------------|-----------------|---------------------|
| 2006 | 4,055,684 | 169,938 | 24 |
| 2007 | 3,081,010 | 132,487 | 23 |
| 2008 | 3,718,005 | 125,832 | 30 |
| 2009 | 3,608,622 | 156,513 | 23 |
| 2010 | 3,193,922 | 120,591 | 26 |

Source: UN Comtrade Database

Re-exports and re-imports have not been analyzed extensively in the present paper. In total, they constitute less than 2% of the vanilla bean market. Re-exports require further analysis to identify the origin of the product, as further processing steps eventually resulting in no significant product modifications may influence the designation of the country of origin. The US and Canada are the largest re-exporters. Re-imports constitute an even smaller portion of the market volume than re-exports. France is considered to be the largest re-importer.

If an exporter should consider targeting the US/Canada or French markets, it should be noted that a comprehensive investigation appears necessary to better understand the complexity of the above trade flow patterns.

Apparent consumption

Since neither Germany nor the US produces vanilla, the estimated consumption of vanilla beans in both countries equals the total imports to that country from the world minus the total exports from that country to the world. The estimated total consumption of vanilla of each country is listed below. The estimation is based on the following assumption: apparent consumption of tomato juice in both countries equals the local production of plus the total imports to that particular country from the world minus the total exports from that country to the world.

Table 12: Estimated Consumption of Vanilla Beans in Germany and the US

| Period | Estimated consumption of Germany (kg) | Per capita consumption of Germany (kg) | Estimated consumption of the US (kg) | Per capita consumption of the US (kg) |
|--------|---------------------------------------|--|--------------------------------------|---------------------------------------|
| 2006 | 201,657 | 2.45 | 1,383,736 | 4.63 |
| 2007 | 309,487 | 3.76 | 2,127,954 | 7.06 |
| 2008 | 186,407 | 2.27 | 1,872,174 | 6.15 |
| 2009 | 210,065 | 2.56 | 1,629,875 | 5.31 |
| 2010 | 375,233 | 4.59 | 1,660,826 | 5.38 |

Source: Estimated data based on UN Comtrade Database and Eurostat Database

Annual per capita consumption of vanilla, which equals the total consumption divided by the total population, in Germany was 4.59kg in 2010 and 5.38kg in the US. The US take a census every ten years, so per capita consumption of the US during 2006 to 2009 is regarded the estimated consumption.

3 Market characteristics

Because of the strong demand situation and the high price level, synthetics are often used instead of natural vanilla. In fact, 97% of vanilla applied as a flavor or fragrance is synthetic (Podsbiochem, 2003), making synthetic vanilla the largest substitute for natural vanilla in global contexts.

Germany

Consumer preferences

Germany and other EU countries mostly import vanilla from the Grade A vanilla suppliers Madagascar and the Pacific Islands (Organic Monitor, 2009). The reason for this is that German preferences for vanilla are different from the US. There is a higher demand for vanilla beans (pods) because of the more complex taste and smell. Based on a survey conducted by a leading European supplier of natural vanilla in Europe (Food Navigator, 2011), German consumers especially prefer the creamy and caramel notes in vanilla. Bourbon Vanilla, with its rich, sweet, and intensive flavor, and Tahitian Vanilla, with its fruity and floral flavor, are the types of vanilla that satisfy the German preferences best. Bourbon Vanilla is mainly produced in Madagascar, Mexico, Indonesia, Tanzania, Uganda, and Vanuatu, whereas Tahitian Vanilla is mainly produced in Tahiti, Fiji, and Papua New Guinea.

Market segments

Market research indicates that the vanilla flavor is preferred by modern and middle class people (Euromonitor, 2011). It is also argued that vanilla lovers are risk takers and enjoy spending time with themselves (QSR Magazine, 2010). There is also a positive global preference trend for natural products, where people tend to choose natural over synthetic products because of increasing health concerns (Food Navigator, 2011). Moreover, there is an increasing number of quality-consciousness customers that refine taste and passion in physical and visual appearance. Primarily due to these rather gourmet-segmented customers, the German vanilla market is dominated by Grade A vanilla beans. In general, the consumption of vanilla in the German food market can be divided into three sectors (CBI Market Survey, 2010):

- Industrial, where spices are used in the processing of convenience food;
- Retail;
- Catering.

Conditions of acceptance

Based on a survey conducted by the FAO (Organic Monitor, 2009), buyers in Europe stress the same factor as buyers in the US – the quality of the product. German buyers will run physical, optical, and microbiological tests to check the quality, color, and flavor of the vanilla product. Price is another important factor in the purchase decision buyers in Germany consider for selecting a vanilla source. Because the German market is a more gourmet-segmented one, consumers are willing to pay a higher price for high-grade vanilla. Conditions of the farm and the facilities of a potential supplier is a third important consideration on part of the importer. Frequently, German importers even use background checks to verify the reputation of a potential supplier; especially for Mexican vanilla producers because of the tendency to mix natural vanilla with synthetic vanillin.

Competition

As a result of the high demand for vanilla in the flavor and fragrance industries, the natural vanilla market around the world, including Germany, has to face big competition from synthetic vanillin. Synthetic vanillin tastes and smells almost like vanilla, but is cheaper due to its less labor-intensive production method. One kg of synthetic vanillin costs approximately US\$14-15 (ICIS, 2006). Currently, 85% of synthetic vanillin production in the world comes from chemical processes; the rest comes from the combination of synthetic vanillin and natural vanilla. In the German vanilla flavoring market, synthetic vanilla covers more than 50% of the market (Dairy Reporter, 2003). In addition to the competition with synthetic vanillin, natural vanilla also has to face competition with other flavors. At this point, the vanilla flavor, along with chocolate, is still one of the two best-loved flavors however (Science Daily, 2011).

Demand trends

According to the FAO, Germany experienced an increase in vanilla imports from 2008 to 2009 as well as an increase in the re-exported vanilla products. In 2008, Germany imported 498 tons of vanilla and re-exported 310 tons of vanilla products. In 2009, the number of imported natural vanilla accounted for 532 tons, whereas 315 tons of vanilla products were re-exported (FAO STAT, 2011). A CBI Market Survey (2010) recorded that the average annual growth of vanilla consumption in Germany was 27% from 2004-2008, the highest among the relevant spices. This figure is expected to grow along with future economic growth in Europe.

The United States

Consumer preferences

The biggest suppliers of vanilla beans to the US are Madagascar, Uganda, and Indonesia. In 2009, they accounted for 42% of imported vanilla to the US. One year later, this figure rose to 74.21% (Icon Group Online, 2011). More than 95% of the vanilla beans consumed in the US are processed into extracts sold to manufacturers as flavoring or to retailers. Therefore, most US purchases include low-grade beans because quality and general appearance are less critical for extraction purposes. For the purpose of making vanilla extract, Grade B beans are better in terms of cost and vanillin content (Vanilla Review, 2008). About 44% of

all vanilla extracts are used for the production of ice cream. Other major industrial users of vanilla extracts are the confectionery, baking, and beverage industries.

Market segments

In the US, most vanilla beans are processed commercially into extracts by a handful of firms, prior to final consumption. Based on the geographical aspect of vanilla beans market segments in US, the three states importing the most are California, Florida, and Texas. The following table shows the top 10 major importers of vanilla beans in the US.

Table 13: Imported Vanilla Beans in the US

| Rank | State | 2008 US\$b | 2009 US\$b | 2010 US\$b | Delta 2008-2009 | Delta 2009-2010 |
|---------------------|--------------|---------------|---------------|---------------|--------------------|--------------------|
| 1 | California | 348 | 270 | 327 | -22.35% | 20.98% |
| 2 | Texas | 287 | 206 | 265 | -28.39% | 29.04% |
| 3 | New York | 126 | 93 | 113 | -26.04% | 21.95% |
| 4 | New Jersey | 134 | 94 | 109 | -29.77% | 15.27% |
| 5 | Illinois | 118 | 86 | 108 | -26.81% | 25.48% |
| 6 | Michigan | 90 | 60 | 88 | -33.72% | 47.33% |
| 7 | Pennsylvania | 81 | 58 | 75 | -28.81% | 28.95% |
| 8 | Louisiana | 87 | 44 | 61 | -50.00% | 40.01% |
| 9 | Georgia | 57 | 47 | 60 | -16.19% | 27.11% |
| 10 | Florida | 58 | 46 | 56 | -21.55% | 23.00% |
| Total of all states | | 2,104 | 1,560 | 1,912 | -25.86% | 22.60% |

Source: Wisser Trade (2010)

The three leading importing companies of organic vanilla are DM Flavors, Amadeus Vanilla, and Nielsen Massey (Organic Monitor, 2009). Other companies, mainly traders, import organic vanilla powder, extracts, and flavors. The main US market segments for natural vanilla are the following:

- Bulk flavoring market: uses for vanilla in this market are the flavoring of food items. Vanilla still remains an ingredient in the original Coca-Cola formulation ("Classic Coke"). The more recent "Vanilla Coke" contains a small quantity of natural vanilla essence. It is estimated that Coca-Cola uses about 200 tons of vanilla annually (Tomkins, 2002). The greatest competition from synthetic vanillin is seen in the bulk market.
- Naturally flavored ice cream: this has been the major growth area for natural vanilla in recent years.
- Whole beans: vanilla is used as a gourmet cooking ingredient.
- Perfumes: vanilla is used as an ingredient in perfumes.

Conditions of acceptance

Bean quality is the most important factor when considering a new supplier. It is common for buyers to utilize physical, visual, and microbiological tests to check the color, flavor, and quality of the vanilla product. It is standard practice for importers to get product samples before entering contracts with new suppliers. Buyers would also want to visit and inspect farms

before entering into long-term contracts. After bean quality, price and volume are important considerations when selecting a new supplier.

As stated above, quality is the primary factor used to select a supplier, so grading standards to define the quality of the product itself are often used. In the US, a minimum content of 2% of vanillin is preferred. Premium beans, designated by a rich, full aroma, oiliness to the touch, and sleekness in appearance, are preferred. Beans that are avoided are those with very little scent, appearing brittle, dry, or mildewed.

Competition

Natural vanilla is in direct competition with synthetic vanilla that costs approximately one-hundredth of the price of the natural product. Synthetic vanilla can be a complete substitute for natural vanilla or a supplement in vanilla extracts (McGregor, 2005). Artificial vanillin is produced from eugenol (derived from glove-stem oil) or acid hydrolysis of lignin. The artificial vanillin is made with chemicals as opposed to the vanillin that occurs naturally in natural vanilla.

Demand trends

The vanilla market has been very unstable since 2000. Environmental disasters hit Madagascar and Indonesia, the world's top producers of vanilla. The vanilla supply was cut significantly. However, the demand for vanilla remained the same, causing prices to increase. Vanilla prices reached US\$500 per kg in 2003 and, as a result, many companies switched to synthetic vanillin as a counter strategy (USAID, 2008).

The organic vanilla market was worth around US\$2.104 billion in 2008. Demand for vanilla beans slumped in 2009 to US\$1.560 billion or 25.86% less than in 2008. In 2010, the demand for vanilla beans increased by 22.6% in comparison to 2009, but no growth is projected for 2011. The reason for the downturn in vanilla imports was that demand for many organic confectionery products and desserts was adversely affected by the economic slowdown taking place in the US and the rest of the world. Vanilla market growth rates are expected to recover when the global economic condition improves.

4 Market access

Tariffs

The European Union provides 0% tariffs for selected nations (see Annex 5 Market Access (European Commission Taxation and Customs Union)), 2.1% tariff for nations belonging to the SPGL (general arrangements) category and 6% tariff for all other nations.

Table 14: EU Tariffs for Vanilla (selection)

| Country / Country Group | Tariff |
|---|--------|
| ERGA OMNES (all countries without a special classification) | 6% |
| Andorra, Albania, Bosnia and Herzegovina, Chile, Egypt, Croatia, Israel, Iceland, Jordan, Japan, South Korea, Lebanon, Moldova, Montenegro, Former Yugoslav Republic of Macedonia, Mexico, Papua New Guinea, San Marino, Turkey, Serbia, South Africa | 0% |
| CARIFORUM (excluding Haiti) | 0% |
| Economic Partnership Agreements (EPA) | 0% |
| LOMB Overseas countries and territories | 0% |
| SPGA (excluding Myanmar) | 0% |
| SPGE (incentive arrangement for sustainable development and good governance) | 0% |
| SPGL (General arrangements) | 2.1% |

Source: EU TARIC Database

Note: See annex 5 Market Access for the full table

The US does not impose tariff duties for nations with MFN status and imposes a duty of 66 Cents per kg for all other nations.

Table 15: US Tariffs for Vanilla

| Duty Type | Description | Rate | Specific Duty | Binding: Bound Nature |
|-----------|------------------------|------|---------------|-----------------------|
| 02 | MFN Applied Duty Rates | 0.00 | --- | Ad Valorem Duty |
| 80 | General Duty | --- | 66 Cents/kg | Specific Duty |

Source: WTO Tariff Analysis Online

Standards and regulations

Germany follows regulations based on ISO regulation 5565-2:1999 for vanilla. Some of the salient features require a natural vanillin share in the vanilla beans between 1.6% and 2.4%. The product requires the obligatory sensory perception of the vanilla taste. To qualify as “Natural Vanilla”, the flavoring components must stem “exclusively” or “almost exclusively” (90%) from vanilla.

A special category of vanilla called Bourbon Vanilla must come from one of the designated vanilla islands (Madagascar, Comoro Islands, La Réunion, Seychelles, Mauritius) and must correspond to the botanical criteria (*Vanilla Planifolia* Andrews). The pictorial representation

of parts of the vanilla plant is customary. Natural Bourbon Flavor must contain a minimum of at least 90% of the flavoring component's weight of Bourbon Vanilla extract.

Pure vanilla extract production is governed in the US by the Code of Federal Regulations (CFR: 169.175 and following sections). The regulations specify the level of ethyl alcohol content (35%) and the content of the vanilla constituent as defined in 169.3(c) is not less than one unit per Gallon. The unit weight of vanilla assuming less than 25% moisture is 13.35 ounces of beans for a single fold and 26.7 ounces for double fold.

For the purpose of establishing standards, the FDA defines the term vanilla beans to mean the properly cured and dried fruit pods of *Vanilla Planifolia* Andrews and of *Vanilla Tahitensis* Moore. Imitation products created from Tonka beans (often from Mexico) contain a harmful substance called "Coumarin" and is hence banned by the FDA.

If the CFR regulations are not met, the product will instead be named a "FLAVOR". If the bean content is met but the alcohol content is not, the product can be named "Pure Vanilla Flavoring". In case of any artificial additives the label should be "Natural & Artificial Flavor" (see Weber Flavors).

Vanilla ice cream is often created by adding an ounce of vanillin per gallon of pure vanilla extract and has to be labeled as "Natural & Artificial Flavor". Artificially synthesized vanilla is often cheaper and is to be labeled as "Artificial Vanilla Flavor" to distinguish from pure vanilla products.

The FAO of the United Nations uses the general agreement on SPS conditions to determine the condition of vanilla beans. This includes awareness of various plant diseases and parasites, the ability to quarantine affected plants and to be open for inspections, checking, and documentation before cargo clearance (see WTO SPS).

Non-tariff barriers

Japan has a non-tariff barrier with the EU in that they are required to produce additional documentation in the form of the following certifications and authorizations:

- C054 Declaration for the import into the European Union of feed and food originating in or consigned from Japan;
- Y045 Products which left Japan before 28 March 2011.

There are no other non-tariff barriers for pure vanilla as defined by the FDA and as per ISO regulation 5565-2:1999.

5 Prices

Vanilla is one of the most expensive spices traded on the world market. With over 150 varieties of vanilla bean species, it is no surprise that price is heavily dependent on the species of the bean as well as the respective quality. There is a correlation between price and quality; when the quality increases, so does the price.

Vanilla bean farmers

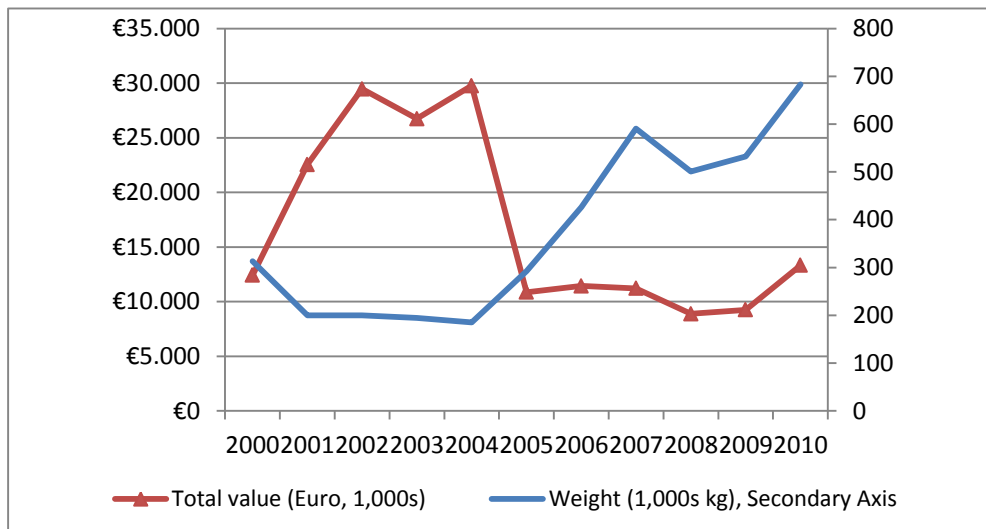
As stated previously, Madagascar and Indonesia are the primary suppliers for Bourbon Vanilla beans to Germany and the US. Farmers were once controlled by the Vanilla Alliance in Madagascar, which was a cartel that would release vanilla into the world market in stockpiled increments based on supply and demand. In the height of the Vanilla Alliance and the Vanilla Marketing Board in Madagascar, vanilla farmers were squeezed out of most of their portion of sales, receiving only eight percent of the FOB price of vanilla (Cadot, Dutoit, Melo, 2006). Farmgate prices were controlled to be low and FOB prices were high.

Wholesale vanilla bean pricing

Wholesale vanilla beans are sold in larger quantities. The smallest unit of bulk wholesale vanilla beans tends to be one pound. Lot sized pricing exists, where the more poundage one purchases, the cheaper the product becomes. For the purposes of an equal evaluation among sources, the quantity and unit of measure researched was one kg. When examining the total vanilla imports in Germany per year, it is interesting to compare the total weight versus total value. Graph 5.1 shows the values for the last five years in Germany. Interestingly, the two factors analyzed – value and weight – generally mirror each other and carry a positive correlation. The only variance from this trend for the years shown is in 2006, where the value of vanilla imports was at €11,426,260 (US\$15,062,271), yet the total weight was at a low near 426,100 kg. The year 2006 was just at the tail end of the natural rise in vanilla prices due to natural disasters, which could explain the said disparity (Wiser Trade, 2010).

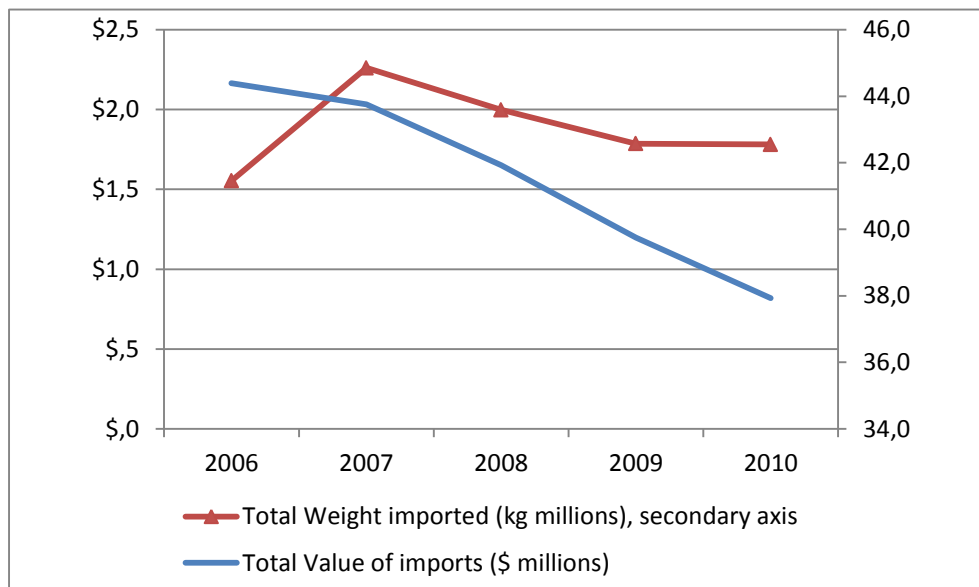
A similar trend can be seen for total vanilla imports of vanilla in the US. Graph 5.2 displays the value and weight of total vanilla imports for the last five years. Other than in 2006, where the value was historically high at US\$44,386,572 and weight was historically low at 1,553,674 kg, the trend of value and weight mirror each other and have a positive correlation (Wiser Trade, 2010).

Figure 1: German Value and Weight Comparison of Vanilla Imports



Source: Wiser Trade (2010)

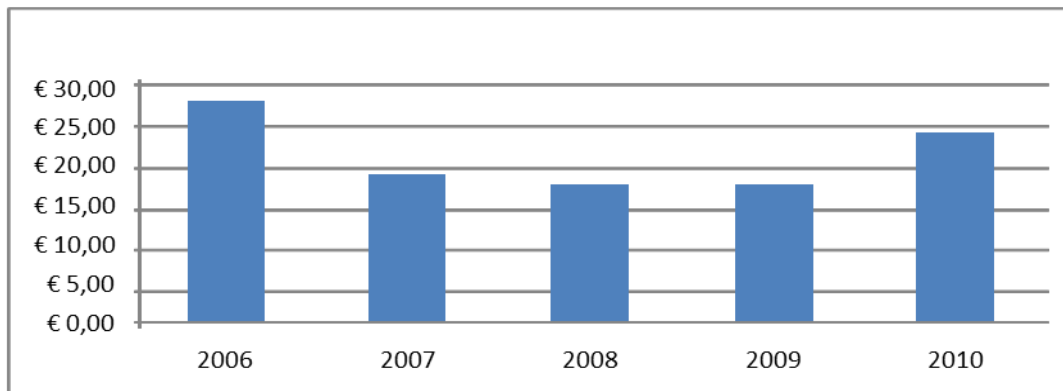
Figure 2: US Value and Weight Comparison of Vanilla Imports



Source: Wiser Trade (2010)

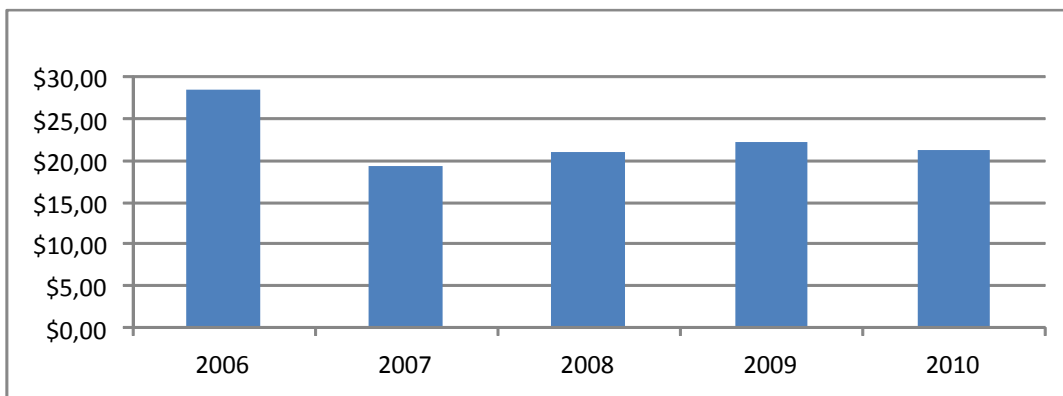
The average price for vanilla beans in Germany in the last five years is €20.09 (US\$26.48). In the US, the average price over the last five years is US\$22.49. It is important to note that natural disasters, such as the April 2000 cyclone in Madagascar, can have a grave effect on price development. After the natural disaster where 25-30% of the total crop was washed out, the price of vanilla peaked at €160.65 (US\$211.57) per kg in Germany and US\$111.39 in the US. The following tables provide an overview over the respective price developments in Germany and the US.

Figure 3: German Vanilla Pricing (avg. price of 1 kg per year in €)



Source: Wisser Trade (2010)

Figure 4: US Vanilla Pricing (avg. price of 1 kg per year in \$)



Source: Wisser Trade (2010)

Retail vanilla bean pricing

The pricing of vanilla beans in the retail market is prevalently dependent on the quantity and the quality of the beans purchased. In order to provide for equal comparisons, the quantity and unit of measure researched refers to one vanilla bean. In the retail market, the quality grade of the bean is oftentimes not specified however. Since common retail products would typically require Grade A or B beans, it is thus assumed that the respective prices presented in the following are for either Grade A or B beans. In Germany, Bourbon beans are sold within the price range of €0.30 (US\$0.40) to €0.93 (US\$1.23) per bean (Madavanilla, 2011). In the US, the range is between US\$1.25 and US\$1.65 per bean (The Vanilla Company, 2010, Beanilla, 2011). Tahitian beans have a range of prices from €0.74 (US\$0.98) to €0.75 (US\$0.99) in Germany (Orlandos Idee, Madavanilla, 2011), whereas in the US, the price range was found to be from US\$0.80 to US\$1.10 per bean.

Table 16: Average Vanilla Bean Wholesale pricing (per pound)

| Species | United States | Germany |
|----------|---------------|----------------------------|
| Bourbon | US\$1.25-1.65 | €0.30-0.93 (US\$0.40-1.23) |
| Tahitian | US\$0.80-1.10 | €0.74-0.75 (US\$0.98-0.99) |

Source: The Vanilla Company (2010), Beanilla (2011)

Value chain

The value chain commences in the farming plantations of the vanilla-growing countries. The payment that the farmers receive from the brokers is very small, approximately US\$1-1.50 per day (Wedeman, 2010). The broker firms running the curing facilities contract with the transportation services, receive the vanilla beans in the destination countries, store the products in warehouses, and distribute them to other companies. Thus, they build much of the value chain within their operations. Table 5.2 shows how volatile the prices for vanilla beans have been over the past five years in three of the vanilla-producing countries.

Table 17: Vanilla Export Volume, Quantity and Estimated Price

| | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------------------------|------------|--------------|-------------|--------------|-------------|
| Madagascar to World (US\$) | 47,372,909 | 56,705,372 | 50,116,446 | 44,183,051 | 17,624,709 |
| (kg) | 1,678,802 | 3,084,534 | 2,228,304 | 2,047,572 | 667,612 |
| Madagascar to Germany (US\$) | 2,839,486 | 1,959,382 | 8,198,626 | 4,465,304 | 3,889,842 |
| (kg) | 90,366 | 97,698 | 320,045 | 197,114 | 159,660 |
| Est. price (US\$) | 31.42 | 20.06 | 25.62 | 22.65 | 24.36 |
| Madagascar to US (US\$) | 11,910,494 | \$18,659,088 | \$8,551,978 | \$14,328,679 | \$4,138,312 |
| (kg) | 540,019 | 1,134,889 | 475,687 | 678,071 | 153,593 |
| Est. price (US\$) | 22.06 | 16.44 | 17.97 | 21.13 | 26.94 |
| | | | | | |
| Indonesia to World (US\$) | 5,891,698 | 6,065,565 | 5,564,594 | 5,087,081 | 4,598,390 |
| (kg) | 499,038 | 539,673 | 421,336 | 404,167 | 341,934 |
| Indonesia to Germany (US\$) | 1,174,394 | 954,930 | 1,188,505 | 1,322,019 | 293,880 |
| (kg) | 57,329 | 70,385 | 77,932 | 86,125 | 17,044 |
| Est. price (US\$) | 20.49 | 13.57 | 15.25 | 15.35 | 17.24 |
| Indonesia to US (US\$) | 3,953,530 | 4,606,730 | 3,261,604 | 3,001,638 | 3,567,400 |
| (kg) | 243,837 | 422,537 | 235,549 | 231,768 | 257,279 |
| Est. price (US\$) | 16.21 | 10.90 | 13.85 | 12.95 | 13.87 |
| | | | | | |
| Uganda to World (US\$) | 4,808,041 | 6,261,795 | 3,039,348 | 4,907,547 | 4,351,592 |
| (kg) | 191,485 | 420,751 | 202,869 | 270,503 | 229,883 |
| Uganda to Germany (US\$) | 1,710,209 | 1,774,031 | 432,294 | 29,097 | 412,142 |
| (kg) | 60,068 | 109,968 | 22,730 | 1,421 | 22,092 |
| Est. price (US\$) | 28.47 | 16.13 | 19.02 | 20.48 | 18.66 |
| Uganda to US (US\$) | 1,989,753 | 2,617,421 | 1,238,610 | 3,781,691 | 2,199,962 |
| (kg) | 81,742 | 163,044 | 83,374 | 178,374 | 88,906 |
| Est. price (US\$) | 24.34 | 16.05 | 14.86 | 21.20 | 24.74 |

Source: UN Comtrade Database

The figures in the export data have already been converted to CIF, so a measurement of value added by the broker from one end of the sea lane to the other cannot be done accurately. However, the data consistently shows price fluctuations throughout the market. Also, the annual price of the product can be followed year-by-year. It is interesting to note that the prices in the German market are consistently higher than in the US.

Table 18: Vanilla Import Volume, Quantity and Estimated Price

| | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------------|------------------|------------------|---------------|---------------|------------------|
| World to Germany (US\$) | 14,296,000 | 15,138,000 | 12,955,000 | 12,983,000 | 17,659,066 |
| (kg) | 425,855 (est) | 578,082 (est) | 497,754 (est) | 530,641 (est) | 683,208 (est) |
| Est. price (US\$) | 33.57 | 26.19 | 24.41 | 24.47 | 25.75 |
| World to US (US\$) | 44,386,572 | 43,759,633 | 41,927,406 | 39,745,318 | 37,928,276 |
| (kg) | 1,553,674 | 2,260,441 | 1,998,006 | 1,786,388 | 1,781,417 |
| Est. price (US\$) | 28.57 | 19.36 | 20.98 | 22.25 | 21.29 |

Source: UN Comtrade Database

The broker organizations distribute the product to industrial, food service, and retail outlets. At this point, further (processing) steps may be added to the value chain as other products may be developed, such as ice cream. The final step in the value chain is the consumption of the product.

6 Distribution channels

Primarily due to the complexity involved in conducting business internationally, firms in the vanilla industry generally prefer to source from national suppliers. This method allows businesses to return substandard products without having to manage the intricacies of a foreign government (Nielsen, 2011). While the dynamics of the vanilla bean supply chain is highly contingent upon the company and export country, the primary mechanism for transporting vanilla from the producer to the end user is an industry broker. Brokers are the intermediaries between the export country and manufacturers that use vanilla beans as production inputs.

Much like the business strategy of a beverage manufacturer purchasing a bottling plant, most vanilla brokers own local curing facilities. After curing is completed, brokers transport the finished product overseas via waterway on shipping containers (Nielsen, 2011). In Germany, major seaports in Emden, Bremen, and Hamburg are ideally located in the country's north-west region to receive African exports. Similarly, vanilla beans are shipped from Madagascar to the eastern part of the US.

Brokers both in Germany and the US store products in company-owned warehouses until the time of sale. In general, vanilla beans are distributed on a just-in-time basis. Beans are transported in sealed cardboard boxes on over-the-road trucks (Nielsen, 2011). Though the product is very stable, possessing a shelf life of two to three years if stored at room temperature, some special handling is required. Vanilla beans are susceptible to aromatic odors; in other words, the product will absorb the smell of items in its proximity. As a result, the beans are also placed in thick plastic bags before inserted into cardboard boxes. These bags hold as much as 50 pounds of beans.

Manufacturing representatives are ultimately responsible for making vanilla products available to consumers through various outlets. These distribution channels include industrial agents (e.g., ice cream manufacturers and bakeries), food services (e.g., restaurants and grocers), and the retail sector (e.g., gourmet or specialty stores and the Internet). Regardless of the mode of distribution, all vanilla producing firms must face the same supply constraint of a crop only grown in regions roughly 10-20 degrees north or south of the equator. Furthermore, exporters must be aware of the supply's vulnerability to weather conditions. In April 2000, a cyclone destroyed 25-30% of the vanilla bean crops in Madagascar and a similar percentage of beans that were stored in local warehouses (Wellman, 2001).

7 Commercial practices

Germany

Vanilla is imported to Germany by a number of companies, some specializing only in vanilla and derivative products, others importing spices in general (see Annex 1).

In Germany standard contracts are typically the basis for further contractual negotiations carried out by phone, fax or e-mail. The outcome of these negotiations is manifested in a written contract which is binding for both partners. Long-term relationships with one supplier are typical for the German market. In general, buyers and sellers are well-known and most contracts are based on mutual terms.

If contracts are already in place and specifications of the product are known, the orders are commonly made via phone, fax or e-mail. Suppliers usually send out written confirmations of orders which is countersigned by the ordering company and sent back again.

Usually, the contracts and standard requirements also cover just-in-time delivery and supply on short notice; i.e., about one week (upon availability).

Prior to new contracts, the importing company requests an offer from the supplier covering all product specifications. A product sample along with a delivery agreement is then usually sent back to the importing companies.

Because of the long-term relationship between suppliers and importers, most contracts will have individual conditions for payment. Common terms of payment are 30/60 days net while discount for early payment is rarely given. The letter of credit (L/C) is hardly used. Vanilla is generally traded on C&F or CIF basis. Commonly used modes of transport are ship, truck, and railroad transportation.¹

The United States

The US importers negotiate annual contracts with several different suppliers for a predetermined amount of vanilla beans. Negotiations take place via e-mail or by telephone, as exporters are usually not readily available to meet in person. Once the contracts are established, the importers issue purchase orders to the suppliers based on current production

¹ Information based on phone interviews with selected German vanilla importers from Annex 1.

needs (Nielsen, 2011). Ordering is typically done on a just-in-time basis with a three to four day turnaround from time of order.

Importers in the US often have a line of credit with suppliers and the industry's standard credit term is 1%/10 net 30. From the time goods are received, importers must pay for the shipment within 30 days by company check or credit card.

Exporters generally ship vanilla beans on shipping containers via waterway. Upon receipt of a purchase order, exporters will ship these goods to the importer on an over-the-road truck; generally, in less-than-full-truckload shipments (Nielsen, 2011). FedEx, UPS, ABF, and Road Runner are couriers often used in the US to transport vanilla beans.

Finally, US importers require suppliers to provide COAs prior to any contractual agreements. COAs certify the quality of the supplier's vanilla beans, such as moisture percentage and natural vanillin content. As in Germany, importers will order in smaller batches from newer suppliers to develop trust as well as to ensure their product meets certain specifications (Nielsen, 2011).

8 Packaging and labeling

Packaging

Packaging of vanilla takes two forms. First, bulk packaging, which consists of bundles of vanilla beans contained in a corrugated outer box called a master case. The second form of packaging is consumer end-use packaging, which consists of plastic bags, plastic tubes, or glass bottles. Whether the vanilla is being packaged for bulk or end use, the vanilla must be kept clean, sanitary, and safe for human consumption.

Bulk packaging for vanilla coming from harvest fields typically consists of bundles of 70-100 beans with lengths between 12-26 cm and weighing between 150-200 g. The bundles are then packed into wax lined cardboard boxes that hold 20-40 bundles. The boxes should be clean, dry, and undamaged. Packaging materials should be kept in clean and dry areas and should comply with good manufacturing practices.

Requirements for products packaged in the EU differ from those in the US. Products packaged in plastic entering the EU must conform to EU packaging standards (EFSA, 2011). The EU packaging standards for plastic are substance specific, and further research should be completed before finalizing consumer package choice (EFSA, 2011). The EFSA web page includes a list of chemicals or substances used in the manufacture of plastic packaging which are either under review or controlled by the EU. Examples of the plastic chemicals and substances included in the review list include but are not limited to:

- Benzophenone and 4-methylbenzophenone;
- Bisphenol A;
- Recycled plastics.

Packaging should conform to EU packaging standards and proper documentation should be kept in order to prove compliance with the consumer packaging standards.

Labeling

Each batch of product should include a label with clearly legible language and numerical notes.

Bulk packaging labels

For bulk packaging being shipped into the EU, the following information should be printed on a label and attached to the outer master case (Europe, 2011):

- Product name, plant name

- Name of vanilla bean should be clearly indicated for easy identification
- Place of production
 - Clearly indicate city and province
- Harvest date
- Name of grower and processor
 - Both names are needed for traceability
- Quantitative information
 - Indicate the net weight of the master case
- Quality approval
 - Should comply with region specific requirements.

Consumer packaging labels

Vanilla being packaged for consumer use should have the following information clearly printed on a product label affixed to the outside of the package (Europe, 2011):

- The name under which the product is sold
- A list of ingredients
- Quantity of ingredients
- Expiration date
- Any special storage conditions
- Name of processor.

9 Sales promotion

Given the limited number of market participants and the lack of new producers entering the marketplace, sales promotions for vanilla are minimal.

Trade fairs and exhibitions are the most common way to promote the products. An advantage of these trade fairs is that the vanilla exporter is able to address the target group in the hosting country directly. Providing product samples is the most appropriate way to promote the companies' products to existing and potential customers.

Exporters are able to advertise their vanilla products and to establish new contacts by participating in one the following major trade fairs and exhibitions in Germany or the US.

Trade fairs and exhibitions

Germany

Anuga

Koelnmesse GmbH
Messeplatz 1
50679 Cologne
Germany
Tel.: +49 221 8212240
Fax: +49 221 8212574
E-mail: anuga@koelnmesse.de

BioFach Germany

NürnbergMesse GmbH
Messezentrum
90471 Nuremberg
Germany
Tel.: +49 911 86060
Fax: +49 911 86068228
E-mail: info@biofach.de

Food & Life

Messe München GmbH
Messegelände
81823 Muenchen

Germany

Tel.: +49 89 94955130

Fax: +49 89 94955139

E-mail: foodlife@ghm.de

Food Ingredients Europe

UBMi B.V.

De Entrée 73, Toren A

P.O. Box 12740

1100 AS Amsterdam Z-O

The Netherlands

Tel.: +31 204 099544

E-mail: fi@ubm.com

The United States

BioFach America

Baltimore Convention Center

One West Pratt Street

Baltimore, 21201, Maryland

USA

For all states east of the Mississippi River, Michelle Spann, +1 303 9989040

For all states west of the Mississippi River, Zachary Watson, +1 303 9989322

Host: NuernbergMesse GmbH

Contacts: <http://www.biofach-america.com/en/contact>

NASFT Fancy Food Shows (Summer / Winter)

National Association for the Specialty Food Trade, Inc.

136 Madison Avenue, 12th Fl.

New York, NY 10016

USA

Tel.: +1 646 8780140

Fax: +1 646 8780240

E-mail: info@nasft.com

Trade magazines

Perfumer & Flavorist Magazine is a trade publication that specializes in flavors and fragrances. The November 2011 issue was dedicated to "Vanilla, ethics, genomics, flavor profiles and more". Articles focused on the creation/application of vanilla, raw materials, regulations, research, and market trends.

To link to this issue, go to:

<http://www.perfumerflavorist.com/magazine/pastissues/2011/106622078.html>.

Perfumer & Flavorist Magazine

Allured Business Media

336 Gundersen Drive, Suite A

Carol Stream, IL 60188

USA

Tel.: +1 630 6532155

Fax: +1 630 6532192

E-mail: customerservice@allured.com

10 Market prospects

Germany

The market for natural vanilla in Germany is expected to remain highly competitive in future. Synthetic vanilla is still the major threat for natural vanilla due to its short production time and cheaper price. Competition may also be catalyzed by further technological development in the production of synthetic vanilla.

However, there is a positive demand trend for natural products in Europe, including Germany, also supporting the demand for natural vanilla. The German consumer preferences are somewhat different from the US however. German consumers are rather gourmet-focused, stressing on the richness of the vanilla taste and flavor (Food Navigator, 2011). This provides better market opportunities for Grade A vanilla in Germany.

Improvements in the manufacturing process will help to reduce production costs for natural vanilla (Medina, Rodriguez and Garcia, 2009). Upgraded production methods will make the killing, sweating, and drying processes increasingly more efficient. Some processors have modified their flavor extraction method from hot extraction to cold extraction, which keeps the flavor sealed in and improves the taste. In general, technological changes in production and extraction are expected to strengthen the competitive position of natural vanilla in the foreseeable future.

Furthermore, suppliers, importers, and re-exporters must keep the qualification standards and packaging regulations in the German market in mind. To be qualified and labeled as natural vanilla, the flavor components must be 90-100% from stemmed vanilla. Therefore, the natural vanilla supply in Germany primarily comes from Madagascar and French Polynesia. These geographical areas are considered to have high quality vanilla beans. Nevertheless, both supplier countries are known to have the highest price level.

In conclusion, the future of the natural vanilla market in Germany appears to be promising, especially for Grade A vanilla products. The demand for natural vanilla in Germany is expected to increase. As far as future business opportunities are concerned, the German market and tariff conditions also open opportunities for further supplier countries, such as Uganda. For example, Bourbon Vanilla from Uganda has almost the same quality as Bourbon Vanilla from Madagascar – and Madagascar is the main supplier of the German vanilla market. Uganda is also one of the EPA countries having a 0% tariff for trade with EU countries. Papua New Guinea could be a promising alternative as well, since it is producing high-grade

Tahitian Vanilla. In addition, similar to Uganda, Papua New Guinea also has 0% tariff imposition.

The United States

Similar to the German market, competition for natural vanilla in the US is very high due to the existence of synthetic vanilla. The US market has mainstream segments that use more economic vanilla or vanilla substitutes, because both quality and appearance of the vanilla is less critical than in the German market. Thus, the demand of high-grade (Grade A) vanilla in the US is not as high as in Germany.

In comparison, innovations in natural vanilla production methods will most likely also increase the demand of natural vanilla in the US market. Production innovations enable producers to lower the costs and shorten the production time in cultivating natural vanilla. In general, it can be assumed that innovation will lower the barriers to new market entrants. Since the US vanilla market is predominantly price-driven, technological change might help low-grade (Grade B) vanilla suppliers to have more opportunities to enter the US market.

Even though the trend towards natural vanilla is increasing, the natural vanilla market in the US is expected to remain stable without significant growth in the mid to long term. This is specifically due to the US consumption practices. Consumers have shown to generate higher demand for vanilla extract than for gourmet or natural varieties of vanilla. For this reason, consumers tend to choose vanilla substitutes or low-grade natural vanilla over high-grade natural vanilla.

As the entire vanilla supply in the US is imported, the technological change and the vanilla extract consumption offer a rewarding opportunity for new suppliers of Grade B vanilla. Australia and New Zealand offer promising alternatives for the US market through their newly-developed and cheaper grade B *Planifolia* species (Vanilla Review, 2008). Meanwhile, the opportunities for lower grade will primarily come from fragrance and non-food and beverage products.

Annex

Annex 1: Selected potential importers

Germany

Aust & Hachmann e.K.

Gewerbehof Christiansen, Haus 7-8

Neumann-Reichardt-Str. 27-33

22041 Hamburg

Germany

Tel.: +49 40 3116700

Fax: +49 40 31167051

Web: www.hachmann-vanilla.de

Gebrüder Wollenhaupt GmbH

Gutenbergstr. 33-35

21465 Reinbek

Germany

Tel.: +49 40 728300

Fax: +49 40 72830113

Web: www.wollenhaupt.com

Schmidt Vanille

Import - Export

Mühlenstr. 37

27419 Sittensen

Germany

Tel.: +49 4282 593197

Fax: +49 4282 593198

Web: www.schmidtvanille.de

EFK Warengrosshandel Vanille

Bröseweg 18

41063 Mönchengladbach

Germany

Tel.: +49 2161 8278528

Fax: +49 2161 8278528

Web: www.vanilleland.com

Vanille Import

Schlossparkstrasse 17-19
52072 Aachen
Germany
Tel.: +49 241 98009901
Fax: +49 241 98009902
Web: www.vanilleimport.de

The United States*Nielsen-Massey Vanillas Inc.*

1550 Shields Drive
Waukegan, Illinois 60085
USA
Tel.: +1 847 5781550
Fax: +1 847 5781570
Web: www.nielsenmassey.com

Vanilla, Saffron Imports

949 Valencia Street
San Francisco, CA 94110
USA
Tel.: +1 415 6488990
Fax: +1 415 6482240
Web: www.saffron.com

Tahitian Gold Co.

23883 Madison Street
Torrance, CA 90505
USA
Tel.: +1 310 4650856
Fax: +1 310 4650857
Web: www.tahitianvanilla.com

Annex 2: Other useful addresses***Germany***

Federal Ministry for Consumer Protection, Nutrition and Agriculture

Website: www.bmvel.bund.de

Office Berlin:

Wilhelmstr. 54
10117 Berlin
Germany
Tel.: +49 30 20060
Fax: +49 30 200642622

Office Bonn:
Rochusstr. 1
53123 Bonn
Germany
Tel.: +49 228 5290
Fax: +49 228 5294262

German Costums-Infocenter
Hansaallee 141
60320 Frankfurt am Main
Germany
Tel.: +49 69 46997600
Fax: +49 69 46997699
E-mail: info@zoll-infocenter.de
Web: www.zoll-d.de

InfoCenter of the German Industry and Chamber of Commerce
Breite Straße 29
10178 Berlin
Tel.: +49 30 203081619
Fax: +49 30 203081616

Annex 3: Various contacts list

Nielsen, Craig
Chief Executive Officer
Nielsen-Massey Vanillas
1550 Shields Drive
Waukegan, IL 60085, USA
Tel.: +1 800 5257853 / +1 847 5781550
Fax: +1 847 5781570
Web: www.nielsenmassey.com
E-mail: craign@nielsenmassey.com

Annex 4: Glossary of terms

CARIFORUM: Caribbean Forum is a group of 15 Caribbean states that form a base for economic dialog with the European Union.

ERGA OMNES: The tariffs for all countries that do not belong to a specific classification. These are the general tariffs applicable to any country.

LOMB: Overseas countries and territories that have a special relationship with countries of the European Union due to historical reasons.

SPGA: WTO status designation; General System of Preferences (R 08/732) minus Annex I column D

SPGE: WTO status designation; General System of Preferences (R 08/732) plus incentive arrangement for sustainable development and good governance.

SPGL: WTO status designation; General System of Preferences (R 08/732) minus general arrangements.

Annex 5: Market access – EU tariffs for vanilla

EU Tariffs for vanilla

SECTION II Vegetable Products
Chapter 9 COFFEE, TEA, MATÉ AND SPICES
0905 Vanilla

| Country/Country Group | Tariff |
|--|--------|
| ERGA OMNES (All countries without a special classification) | 6% |
| Andorra, Albania, Bosnia and Herzegovina, Chile, Egypt, Croatia, Israel, Iceland, Jordan, Japan, South Korea, Lebanon, Moldova, Montenegro, Former Yugoslav republic of Macedonia, Mexico, Papua New Guinea, San Marino, Turkey, Serbia, South Africa | 0% |
| CARIFORUM (excluding Haiti) Antigua and Barbuda, Barbados, Bahamas, Belize, Dominica, Dominican Republic, Grenada, Guyana, Jamaica, St Kitts and Nevis, St Lucia, Surinam, Trinidad and Tobago, St Vincent and Grenadines | 0% |
| Economic Partnership Agreements (EPA) Burundi, Botswana, Ivory Coast, Cameroon, Fiji, Ghana, Haiti, Kenya, Comoros (excluding Mayotte), Lesotho, Madagascar, Mauritius, Mozambique, Namibia, Rwanda, Seychelles and dependencies, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe | 0% |

| | |
|--|------|
| <p>LOMB Overseas countries and territories</p> <p>Anguilla, Netherlands Antilles, Antarctica, Aruba, Falkland islands, Greenland, South Georgia and South sandwich islands, British Indian Ocean territory, Cayman Islands, Montserrat, New Caledonia and dependencies, French Polynesia, St Pierre and Miquelon, Pitcairn, St Helena and dependencies, Turks and Caicos islands, French southern territories, British Virgin Islands, Wallis and Futuna Islands</p> | 0% |
| <p>SPGA (excluding Myanmar)</p> <p>Afghanistan, Angola, Bangladesh, Burkina Faso, Burundi, Benin, Bhutan, Democratic Republic of Congo, Central African Republic, Cape Verde, Djibouti, Eritrea, Ethiopia, Gambia, Guinea, Equatorial Guinea, Guinea Bissau, Haiti, Cambodia, Kiribati, Comoros (excluding Mayotte), Laos, Liberia, Lesotho, Madagascar, Mali, Myanmar, Mauritania, Maldives, Malawi, Mozambique, Niger, Nepal, Rwanda, Solomon Islands, Sudan Sierra Leone, Senegal, Somalia, Sao Tome and Principe, Chad, Togo, East Timor, Tuvalu, Tanzania, Uganda, Vanuatu, Samoa, Yemen, Zambia</p> | 0% |
| <p>SPGE (incentive arrangement for sustainable development and good governance)</p> <p>Armenia, Azerbaijan, Bolivia, Colombia, Costa Rica, Ecuador, Georgia, Guatemala, Honduras, Mongolia, Nicaragua, Panama, Peru, Paraguay, El Salvador</p> | 0% |
| <p>SPGL (General arrangements)</p> <p>UAE, Antigua and Barbuda, Anguilla, Netherlands Antilles, Antarctica, Argentina, American Samoa, Aruba, Barbados, Bahrain, Bermuda, Brunei, Brazil, Bahamas, Bouvet Island, Botswana, Belize, Cocos Islands, Republic of Congo, Ivory Coast, Cook Islands, Cameroon, China, Cuba, Christmas island, Dominica, Dominican Republic, Algeria, Egypt, Fiji, Falkland islands, Federated states of Micronesia, Gabon, Grenada, Ghana, Gibraltar, Greenland, South Georgia and South Sandwich islands, Guam, Guyana, Heart Island and McDonald Islands, Indonesia, India, British Indian Ocean Territory, Iraq, Iran, Jamaica, Jordan, Kenya, Kyrgyzstan, St Kitts and Nevis, Kuwait, Cayman Islands, Kazakhstan, Lebanon, St Lucia, Sri Lanka, Libya, Morocco, Republic of Marshall Islands, Macao, Northern Mariana islands, Montserrat, Mauritius, Mexico, Malaysia, Namibia, New Caledonia and dependencies, Norfolk Island, Nigeria, Nauru, Niue Island, Oman, French Polynesia, Papua New Guinea, Philippines, Pakistan, St Pierre and Miquelon, Pitcairn, Palau, Qatar, Russian Federation, Saudi Arabia, Seychelles and dependencies, St Helena and dependencies, Surinam, Syria, Swaziland, Turks and Caicos islands, French Southern Territories, Thailand, Tajikistan, Tokelau, Turkmenistan, Tunisia, Tonga, Trinidad and Tobago, Ukraine, United States Minor outlying islands, Uruguay, Uzbekistan, St Vincent and Grenadines, Venezuela, British Virgin islands, Virgin Islands of US, Vietnam, Wallis and Futuna islands, South Africa, Zimbabwe</p> | 2.1% |

Source: TARIC database

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