

Chinese Furniture Exports

Furniture components, traceability and risks

Common species used in the furniture sector and
legality related risks

Sofia Ryder

Source Responsible Consulting

Part 1: Chinas export oriented furniture sector

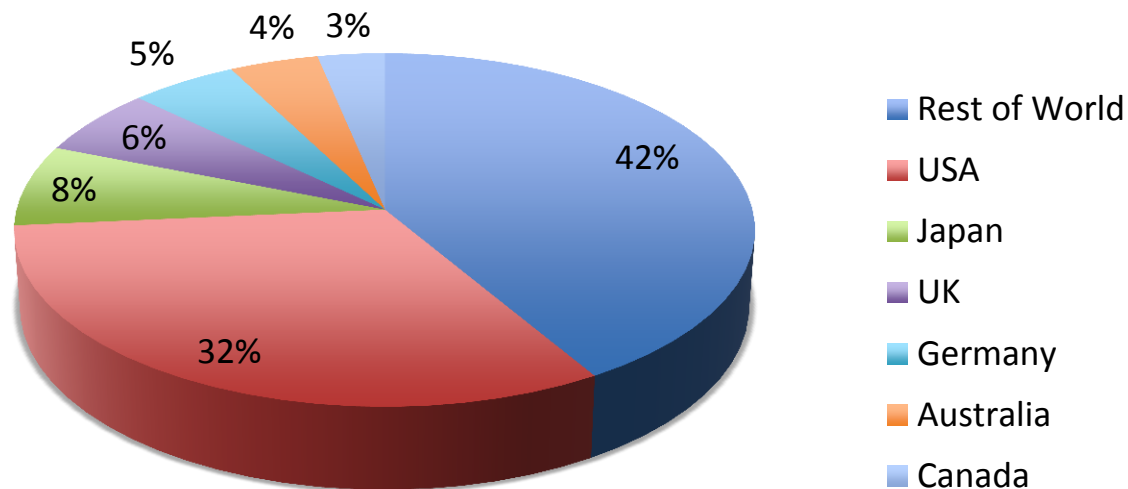
- Using trade data to gain an understanding of some the commonly used species and components for furniture products in producer countries, their likely origin and potential risk can be an important to inform and guide due diligence or enforcement related activities.
- This section presents an overview of Chinas export oriented furniture sector towards countries enforcing demand-side legislation including:
 - quantities, value and types of furniture that are exported from China to the EU, US and Australia and
 - key exporting furniture provinces and companies for Chinese furniture

Chinas trade in wooden furniture

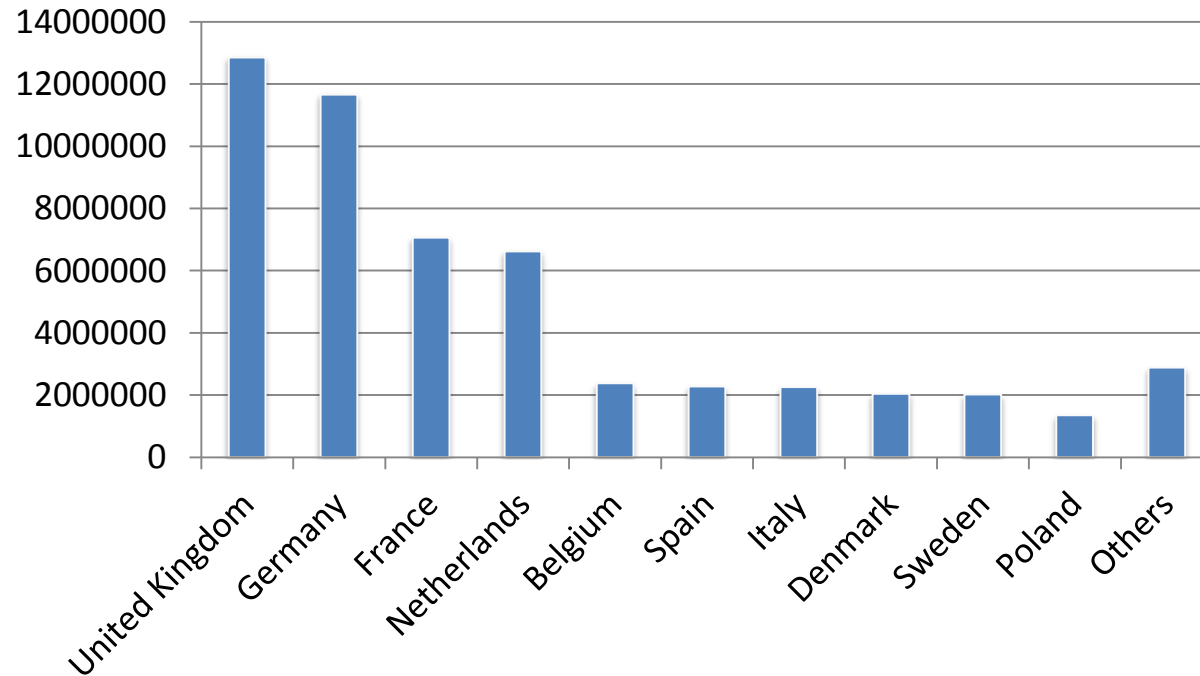
- Wooden furniture is the biggest wood products sector in terms of global wood trade
- In 2014, 777.8569 million pieces of furniture were produced in China- an increase of 3.1% compared to 2013
- In 2014, profit in the sector was 44.185 billion RMB - an increase of 12.5% compared with 2013
- In 2014, furniture export value reached US \$ 53.416 billion, an increase of 0.61% compared with 2013

(China National Furniture Association (CNFA))

Top wooden furniture recipient countries in 2014- quantity

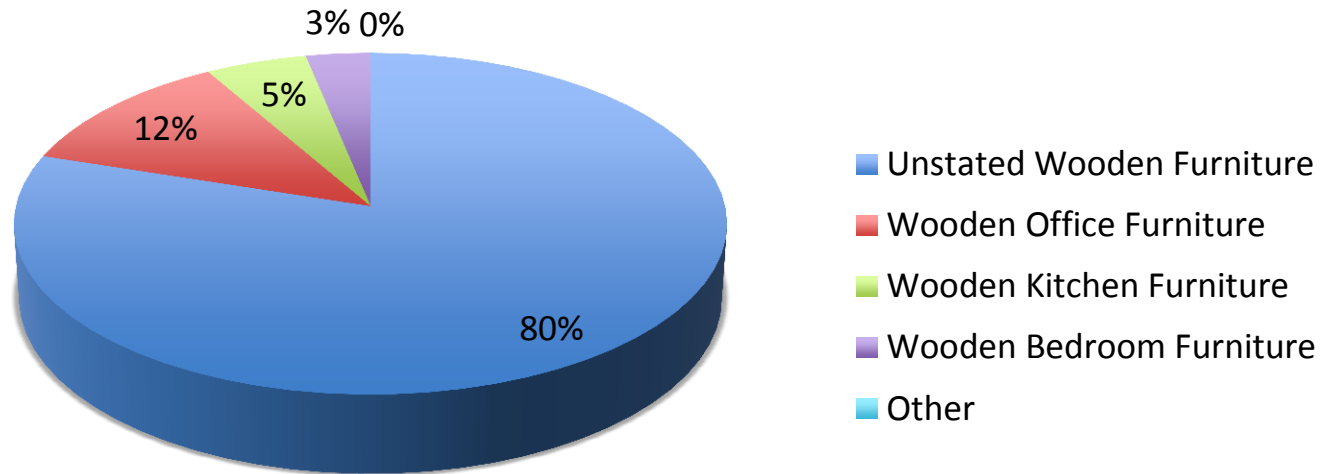


Chinas wooden furniture exports to EU countries in 2014-quantity



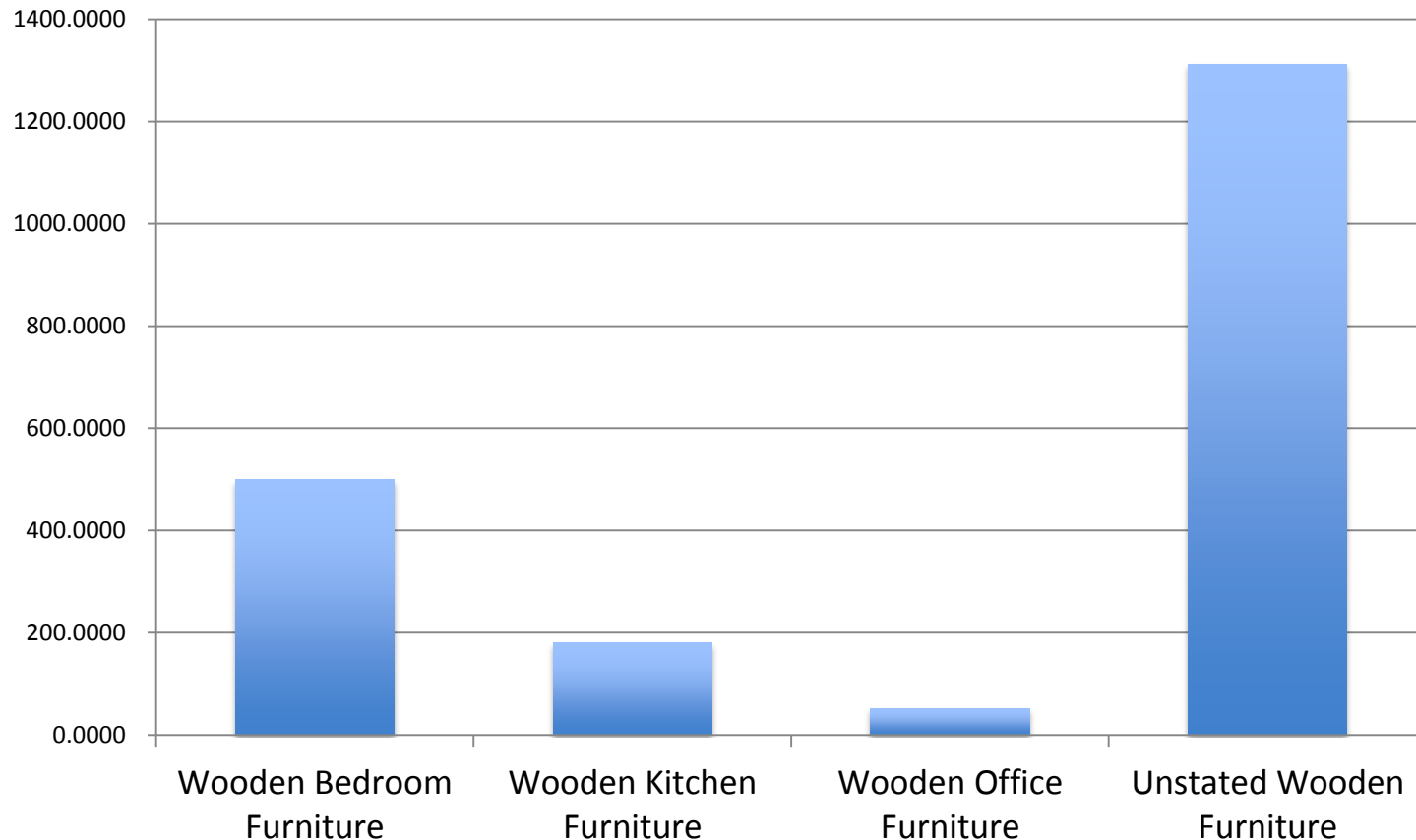
Source: China customs data

China's furniture exports to the EU in 2014- by HS Code 9403 - quantity



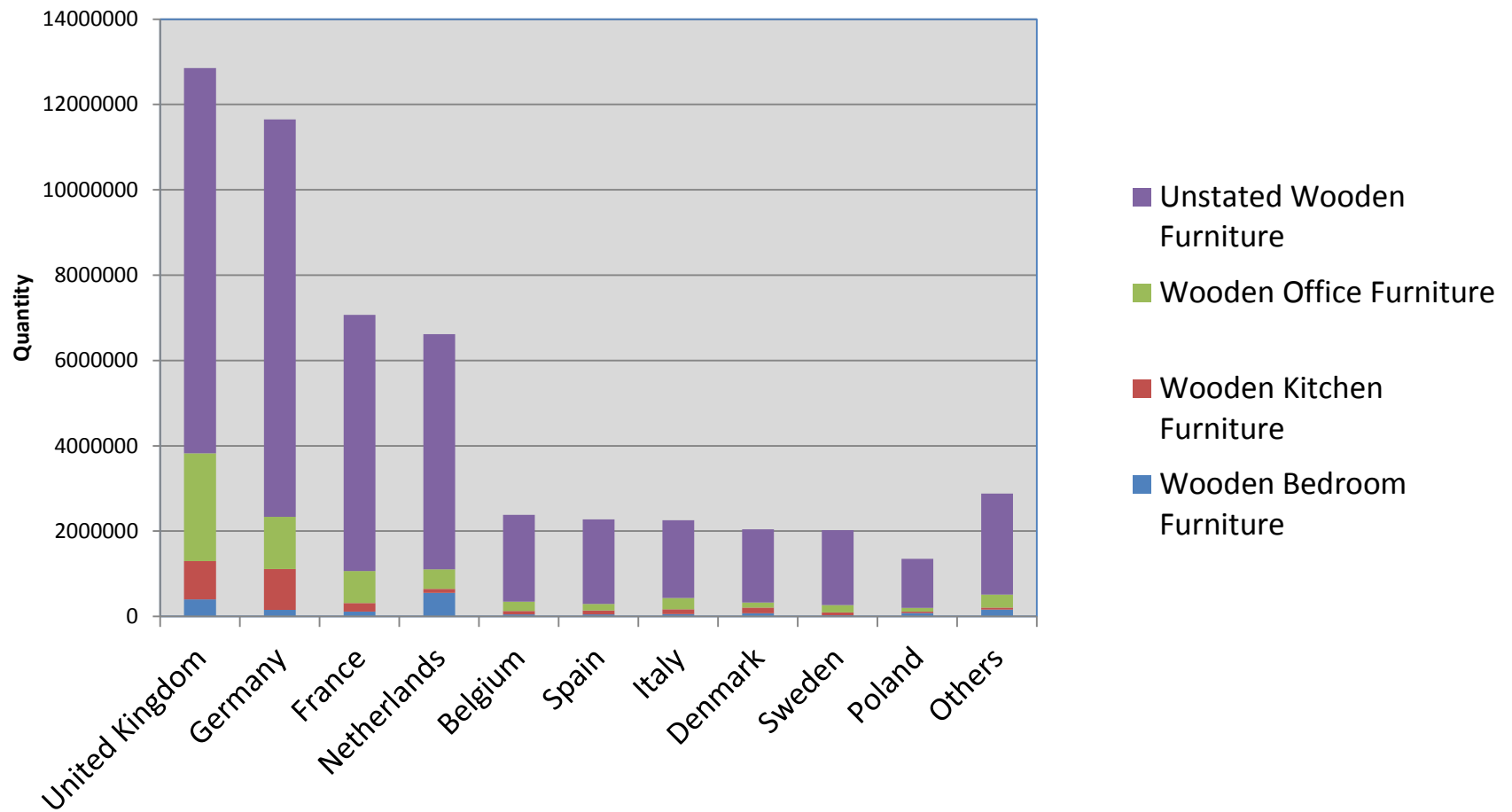
Source: China customs data

Wooden furniture exports to EU in 2014 - by Value (USD)



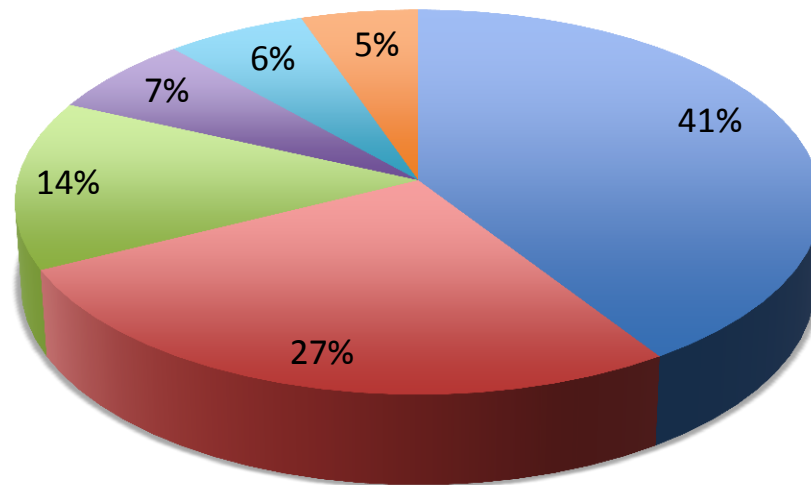
Source: China customs data

Wooden furniture exports to EU in 2014 – quantity



Source: China customs data

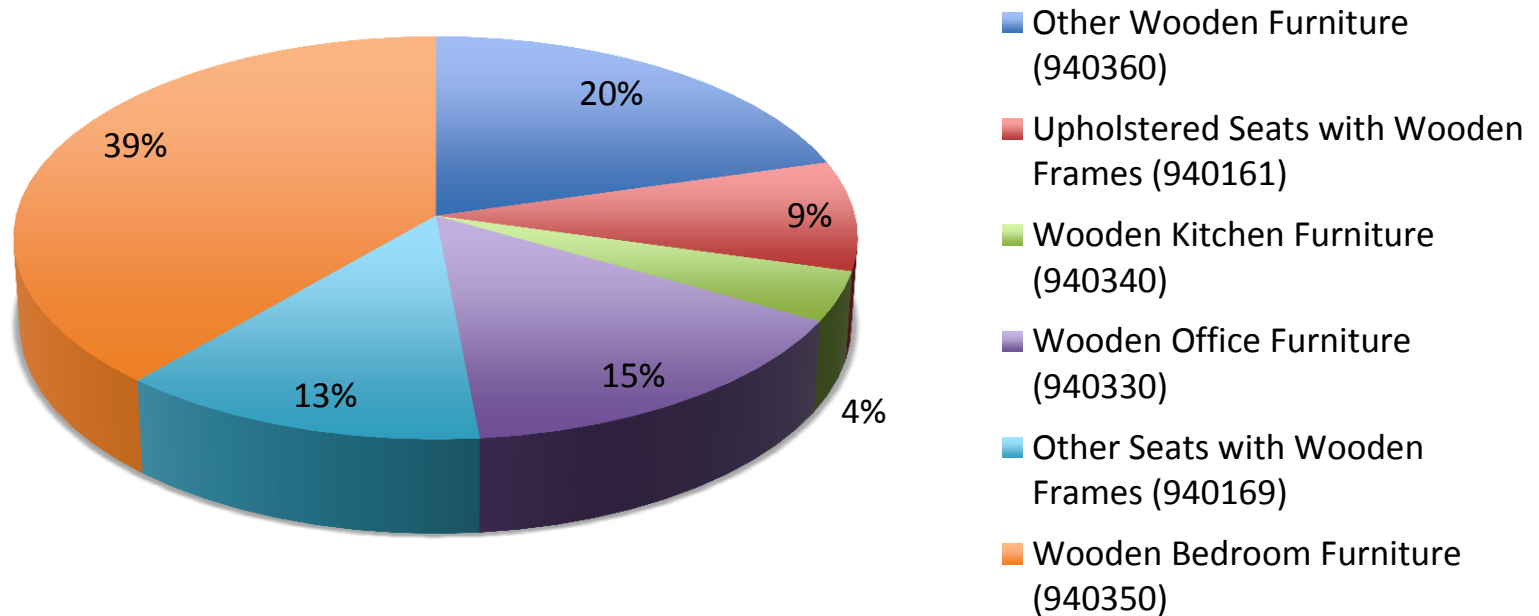
Chinas furniture exports to the US in 2014 - quantity



Source: China customs data

- Other Wooden Furniture (940360)
- Upholstered Seats with Wooden Frames (940161)
- Wooden Kitchen Furniture (940340)
- Wooden Office Furniture (940330)
- Other Seats with Wooden Frames (940169)
- Wooden Bedroom Furniture (940350)

Chinas furniture exports to Australia in 2014- quantity

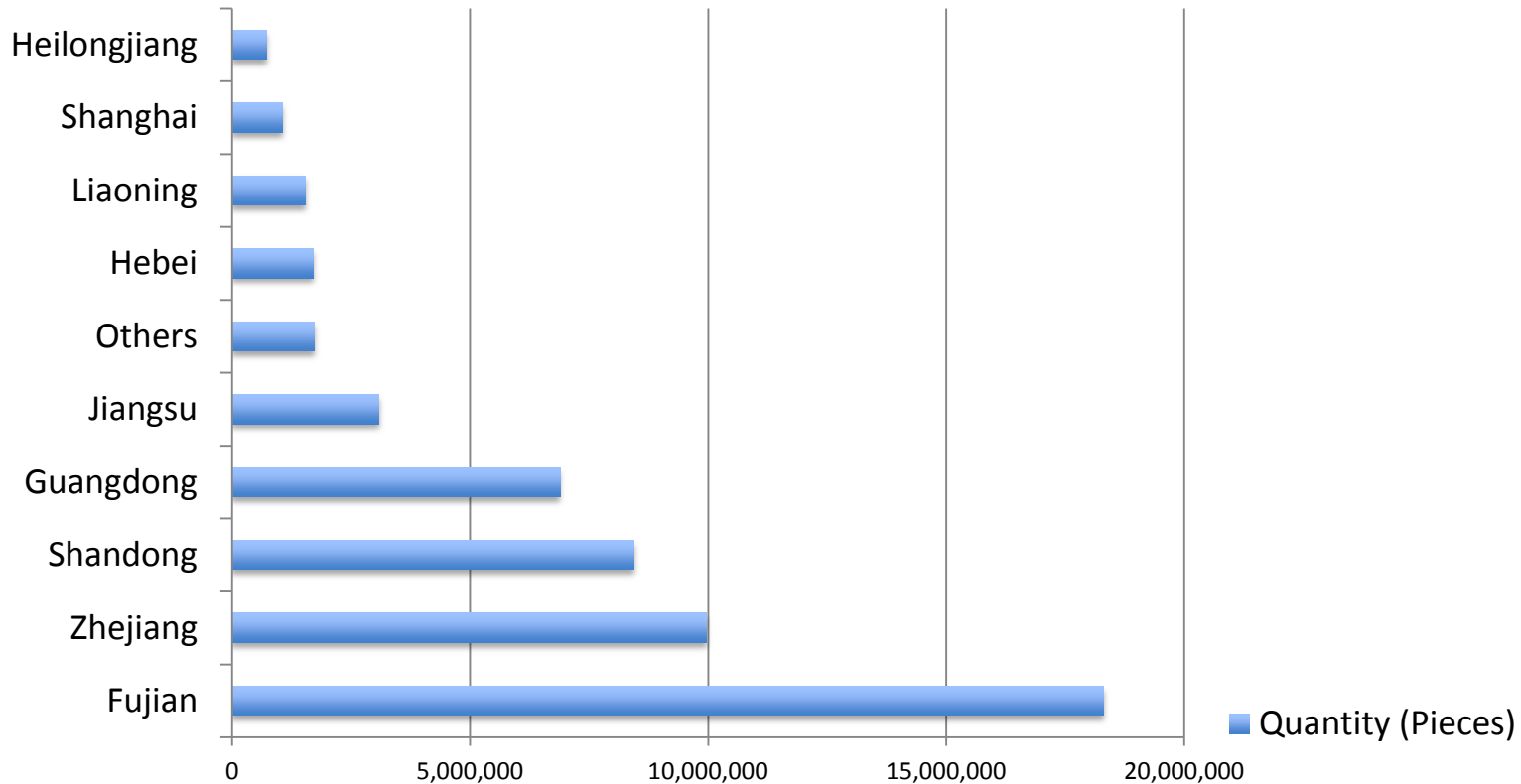


Source: China customs data

China's furniture sector: small-scale, widely dispersed operations

- China's furniture sector is characterized by a large number of small companies, lack of vertical and horizontal integration and little consolidation compared to many other industrial sectors.
- China has several furniture production hubs (including the Provinces of Fujian, Zhejiang, Shandong and Guangdong). These together export the largest quantities of products to Australia, EU and US.
- The production of furniture components are widespread and the components produced consist of both domestic and imported sources of wood.

Wooden Furniture Exports (HS code 9403) to EU by Province -2014



Jiangsu, Guangdong, Shandong and Zhejiang are major production areas for wood based panels, which are major components of bedroom, kitchen and office furniture products.

Chinas top furniture exporters in 2014 by value of exports

Part 2: Furniture components

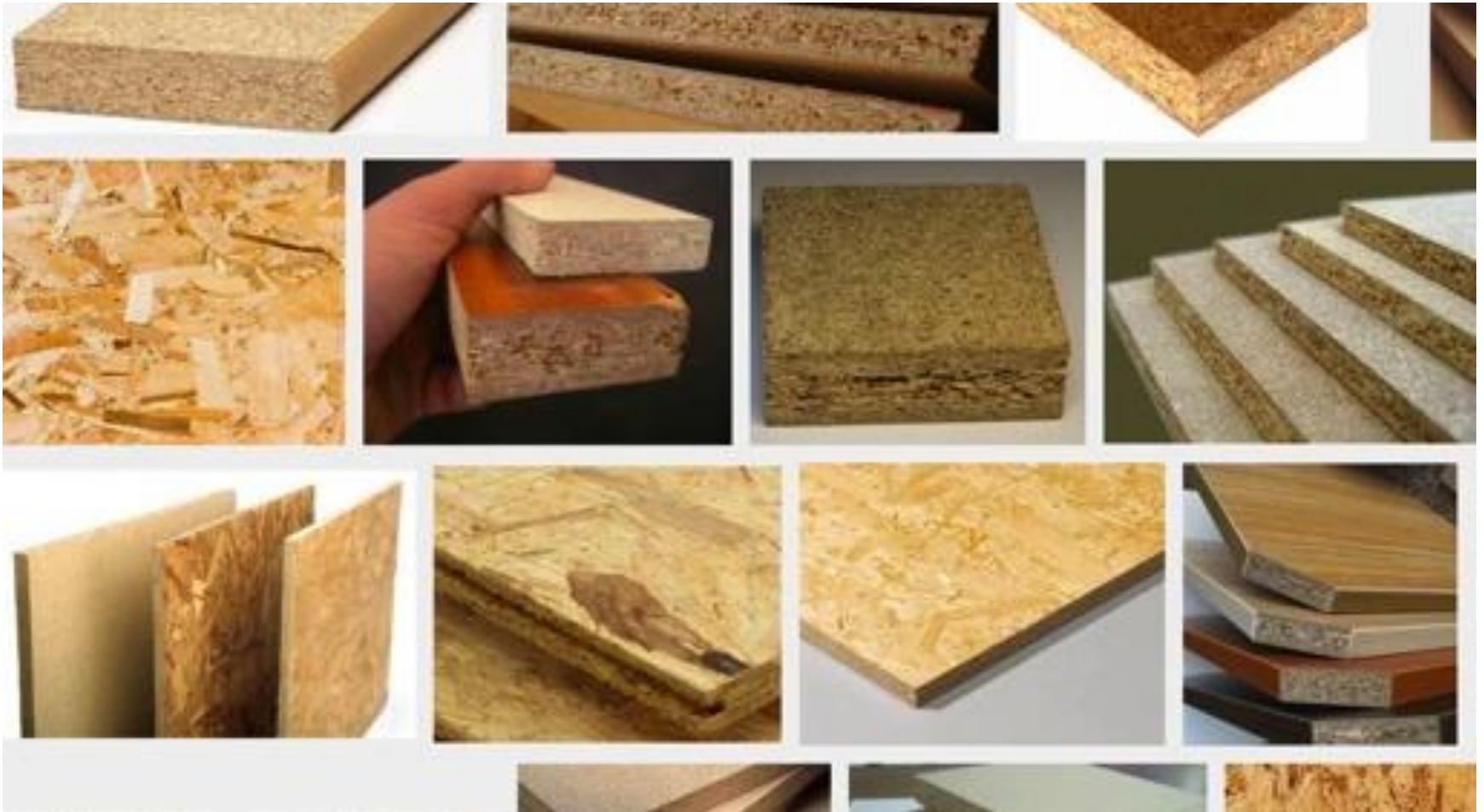
The major components of furniture products are:

- Wood-based panels (MDF, particleboard, plywood and sometimes blockboard)
- Hardwood logs, lumber and veneers
- Softwood logs, lumber and veneers
- Metal, plastic, glass, bamboo, rattan
- Paper/foils

This section provides information about the likely origin of some of the various components used for manufacture of furniture in China

Particle board, fibre board & MDF

- MDF, plywood and particleboard are used extensively in the manufacture of wooden furniture and are increasingly incorporated into “solid wood” style furniture.
- These are usually combined with hardwood or softwood veneer or melamine or paper overlays.
- Establishing traceability for such board materials can be exceptionally challenging since raw material is usually collected from many (hundreds) of sources.



Particle board is a cheaper, denser and more uniform than conventional wood and plywood and is substituted for them when appearance and strength are less important than cost.



MDF can be combined with paper, melamine or veneer in the production of solid wood style furniture.

Input materials for MDF/PB

- Input material for particle-board & fibre board is usually in the form of:
 - sawdust (from primary or secondary processing),
 - chips from forest based material (logs, branches) and
 - offcuts (e.g. co-products and waste material from secondary manufacturing).



Sawdust (from primary or secondary processing) and wood chips (from waste or forest based materials) for MDF/PB production



Material from forest sources (e.g. from logs or branches) are usually lower grade materials which, in China, are often locally sourced.



Waste materials from primary and secondary processing are often used as input materials for the production MDF and particle board

Softwood logs and lumber components



In 2014, softwood logs accounted for around 70% of China's total log and lumber imports

Key import countries for softwood logs in 2014

	2014	2013	Change
Softwood logs	3583.87	3316.36	8%
New Zealand	1156.87	1148.14	1%
Russia	1000.59	929.01	8%
USA	554	526.38	5%
Canada	301.96	270.9	11%
Australia	214.56	157.51	36%
Ukraine	155.81	136	15%
Japan	31.16	11.7	166%
France	30	33.6	-11%

Figure: Softwood log imports to China 2013-2014 (Source CPWDA)

Key import countries for softwood lumber in 2014

	2014	2013	Change
Softwood lumber	1763.8	1691	4.3%
Russia	721	643	12.1%
Canada	656.6	679.4	-3.4%
Chile	85.2	87.9	-3.1%
USA	83.9	87.6	-4.2%
Sweden	44	36.8	19.6%
Finland	39.1	40.1	-2.5%

Figure; Softwood lumber imports to China 2013-2014. Source CPWDA

Hardwood logs and lumber components



In 2014 hardwood logs accounted for around 30% of Chinas total log imports. Of these around 7% were deciduous hardwood logs and the remaining 23% tropical hardwood logs.

Key import countries for hardwood logs in 2014

Hardwood logs

	2014	2013	Change
Hardwood logs	1535.56	1199.58	28%
PNG	329.66	275.2	19.8%
Solomon Islands	219.39	203.6	41.7%
Russia	136.98	96.7	5%
Myanmar	79.91	93.9	-14.9%
Mozambique	61.06	34.7	76%
Republic of Congo	57.35	50.2	14.2%
USA	55.55	33.8	64.3%

Figure: Hardwood log imports to China 2013-2014 (Source CPWDA)

Key import countries for hardwood lumber in 2014

	2014	2013	Change
Hardwood lumber	801.5	703.7	13.9%
Thailand	223.1	189.7	17.6%
USA	196.1	176.6	11.0%
Russia	69.2	59.5	16.3%
Philippines	58.1	70.5	-17.6%
Indonesia	28.7	36.8	-22.0%
Malaysia	24.7	20.6	19.9%
Gabon	24.5	16.7	46.7%

Figure: Main supplying countries for hardwood lumber (Source CPWDA)

Part 3: Common species used in furniture components and risks in source countries

- Achieving an understanding of some the commonly used species for furniture products and their likely origin can be an important to inform and guide due diligence or enforcement related activities.
- Below is an overview of some common species used in furniture manufacturing, their most common (country) sources and an indication of legality related risks.

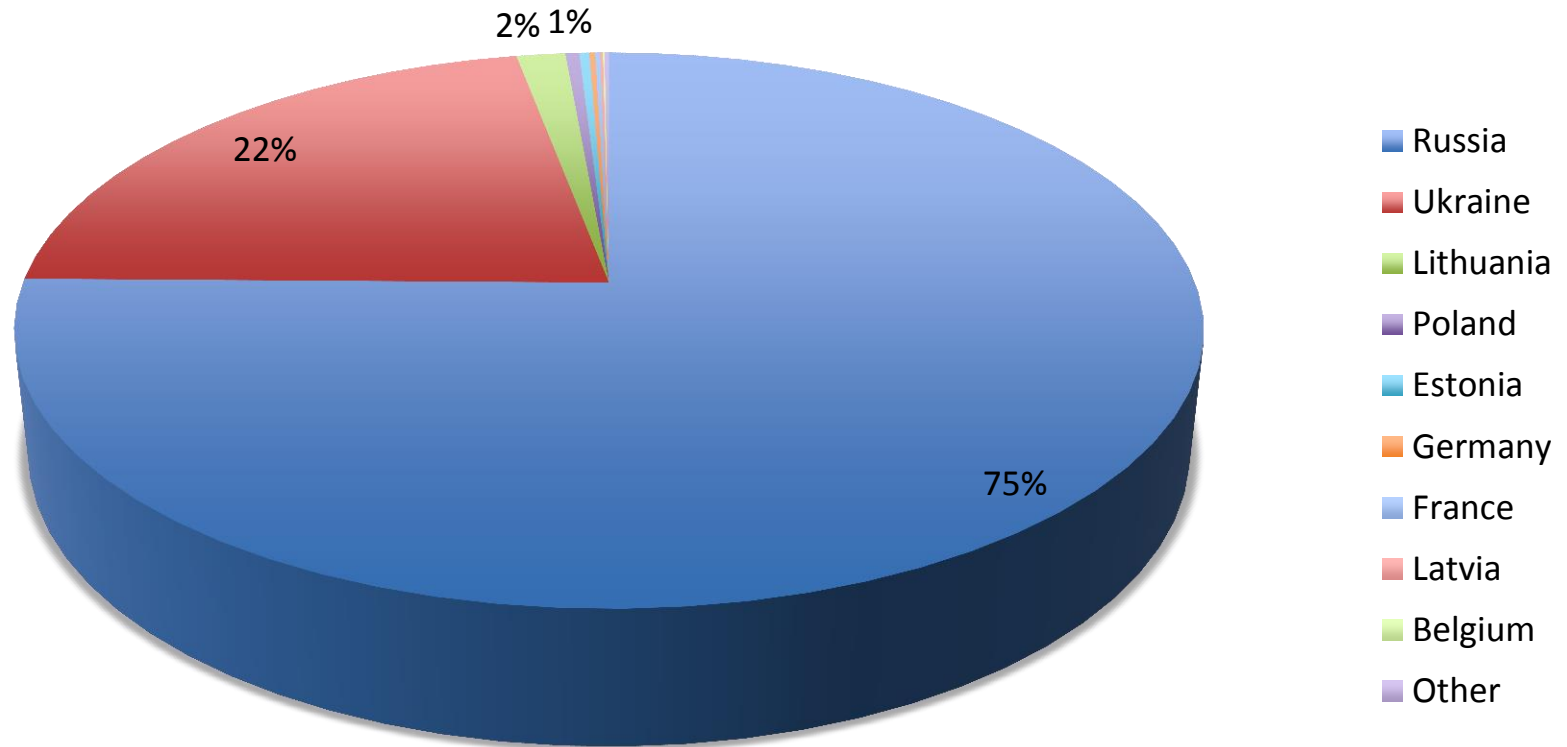
Pine



Pine is widely used in high-value carpentry items such as furniture, window frames, panels, floors and roofing.

It is also used in the furniture sector in panels (MDF/Particle Board) or higher-grade/thin plywood.

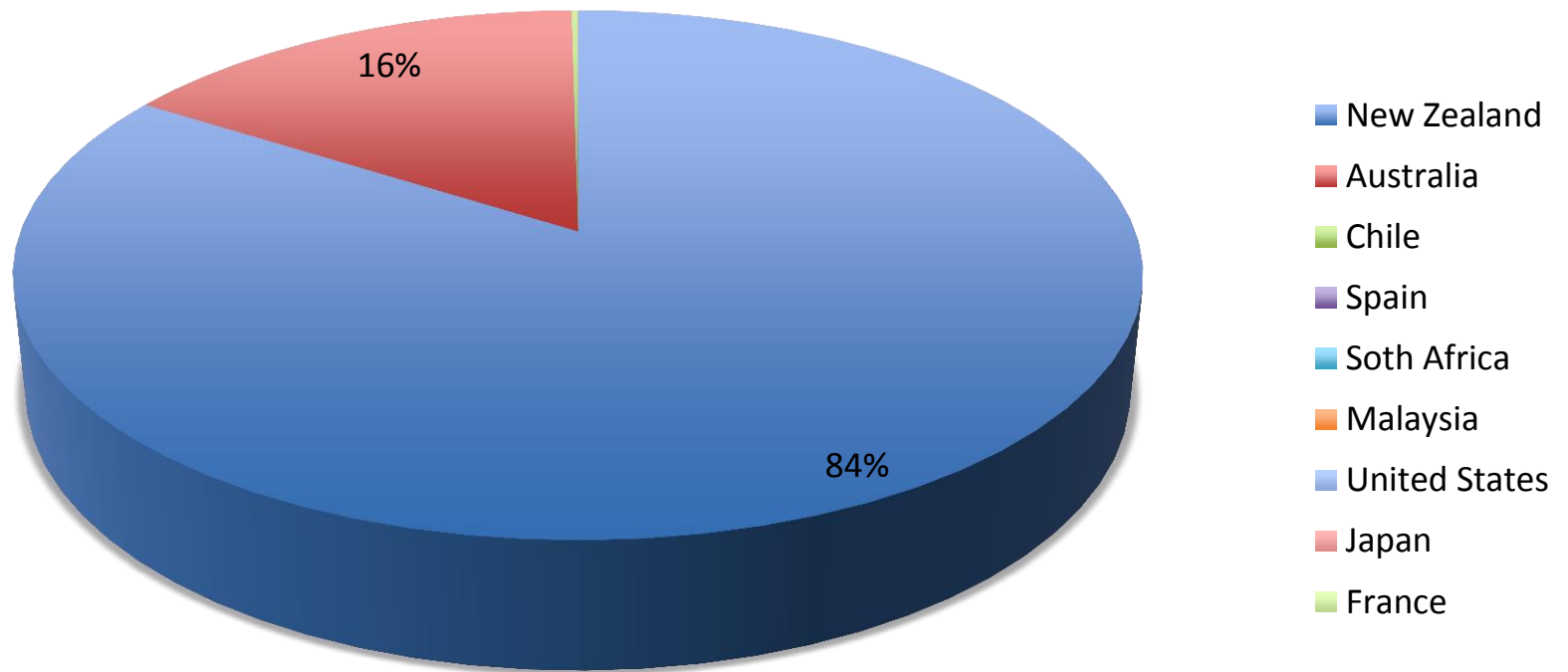
Korean Pine (P.Koraiensis), Mongolian Pine (P. Mongolica) and Scots Pine (P. Sylvestris) wood in the rough imports in 2014 (volume m3)



Korean & Mongolian Pine

- Pine species such as Korean pine and Mongolian pine from natural forests is widely used in (high value) solid wood/veneer furniture or components.
- In Russia's natural forests a prevalence of illegal logging is well documented.
- Other lesser sources such Romania, Ukraine and Belarus are less well studied and/or have fewer documented incidences of illegal logging
- Korean Pine is [listed](#) on Appendix III of the Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES). All exports of the species from Russia require CITES permits.

2014 Radiata Pine (*P Radiata*) wood in the rough imports (volume m3)



Radiata pine

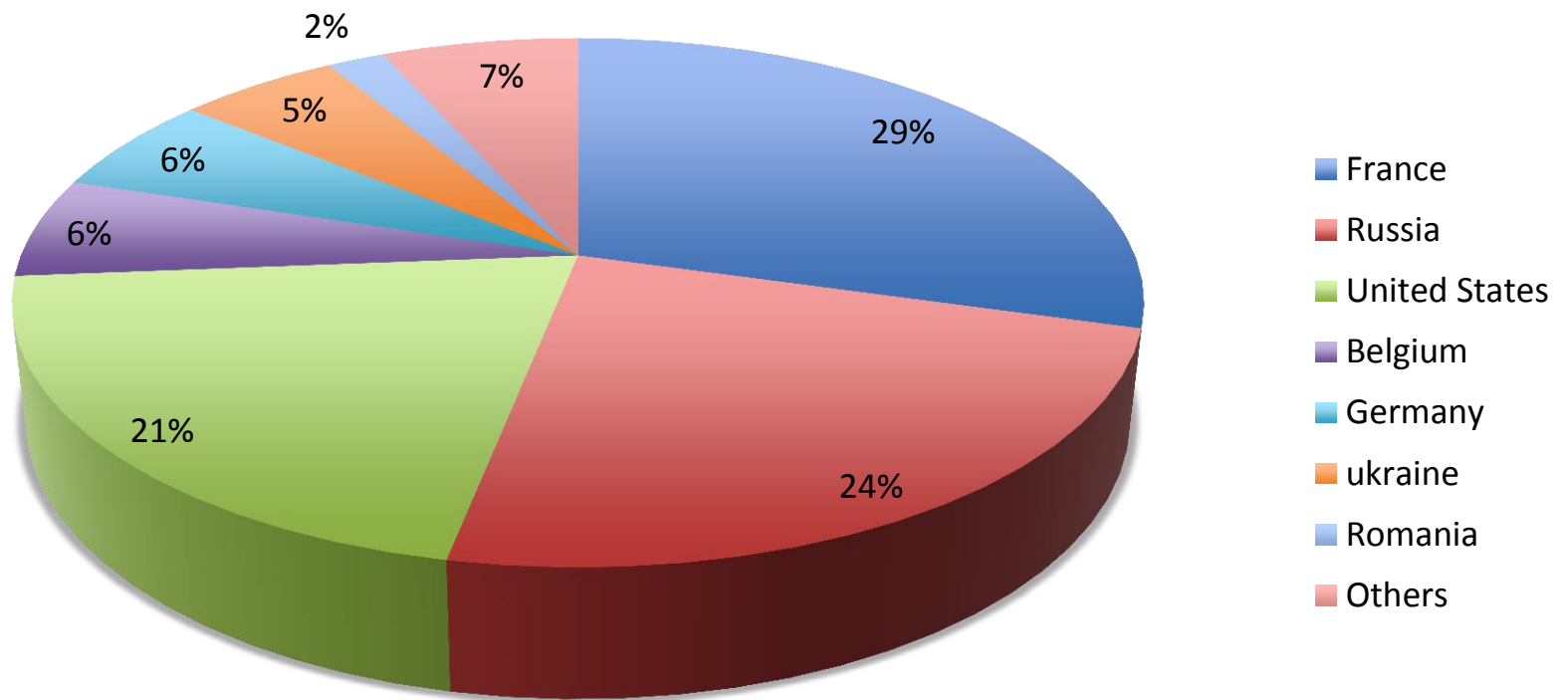
- Radiata pine is commonly used in the furniture sector in panels (MDF/Particle Board) or higher-grade/thin plywood.
- Pine timber from plantations is less dense than natural pine, therefore less likely to be use for (higher quality) solid pine or veneer furniture or components.
- In 2014, over 80% of radiata pine logs were imported from New Zealand (11,078,327m³).
- New Zealand is low risk in terms of illegal harvesting and trade.

Deciduous hardwoods



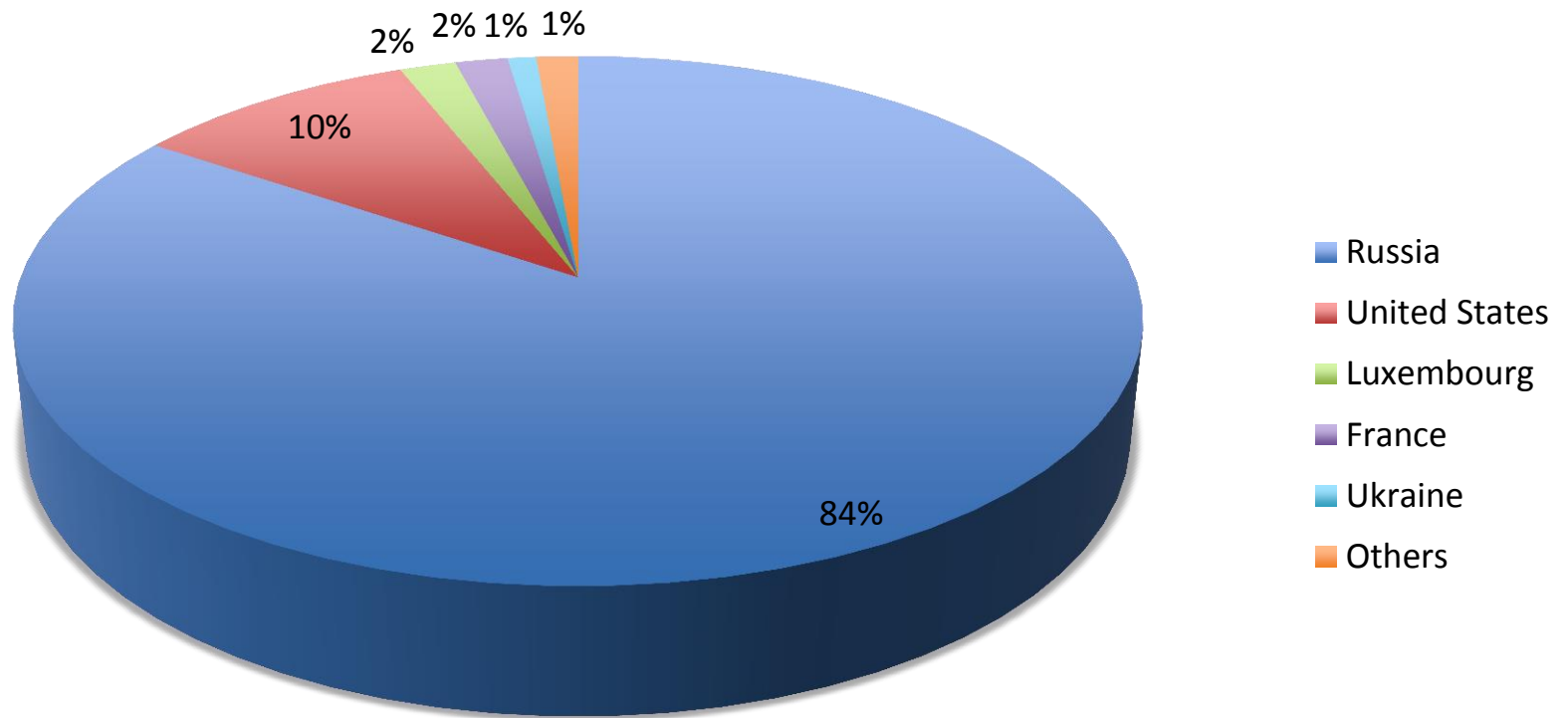
Deciduous hardwoods such as Oak (*Quercus* spp), Ash (*Fraxinus* spp), Maple (*Acer* spp), Cherry (*Prunus* spp) and Walnut (*Juglans* spp) are commonly used for solid wood furniture.

2014 Oak (*Quercus Spp.*) wood in the rough imports (m3)



- Oak is one of the most popular woods used in furniture making.
- Oak wood is commonly used for furniture and flooring, timber frame buildings, and veneer production.
- Some furniture or components are made of solid oak whilst others comprise oak components e.g oak veneer on particleboard.
- There are approximately 600 species of oak.
- Whilst France and the USA have a low risk of illegal harvesting and trade, the incidence of illegal harvesting and trade in Russia is significant.

2014 Ash (*Fraxinus* spp.) wood in the rough imports (m3)



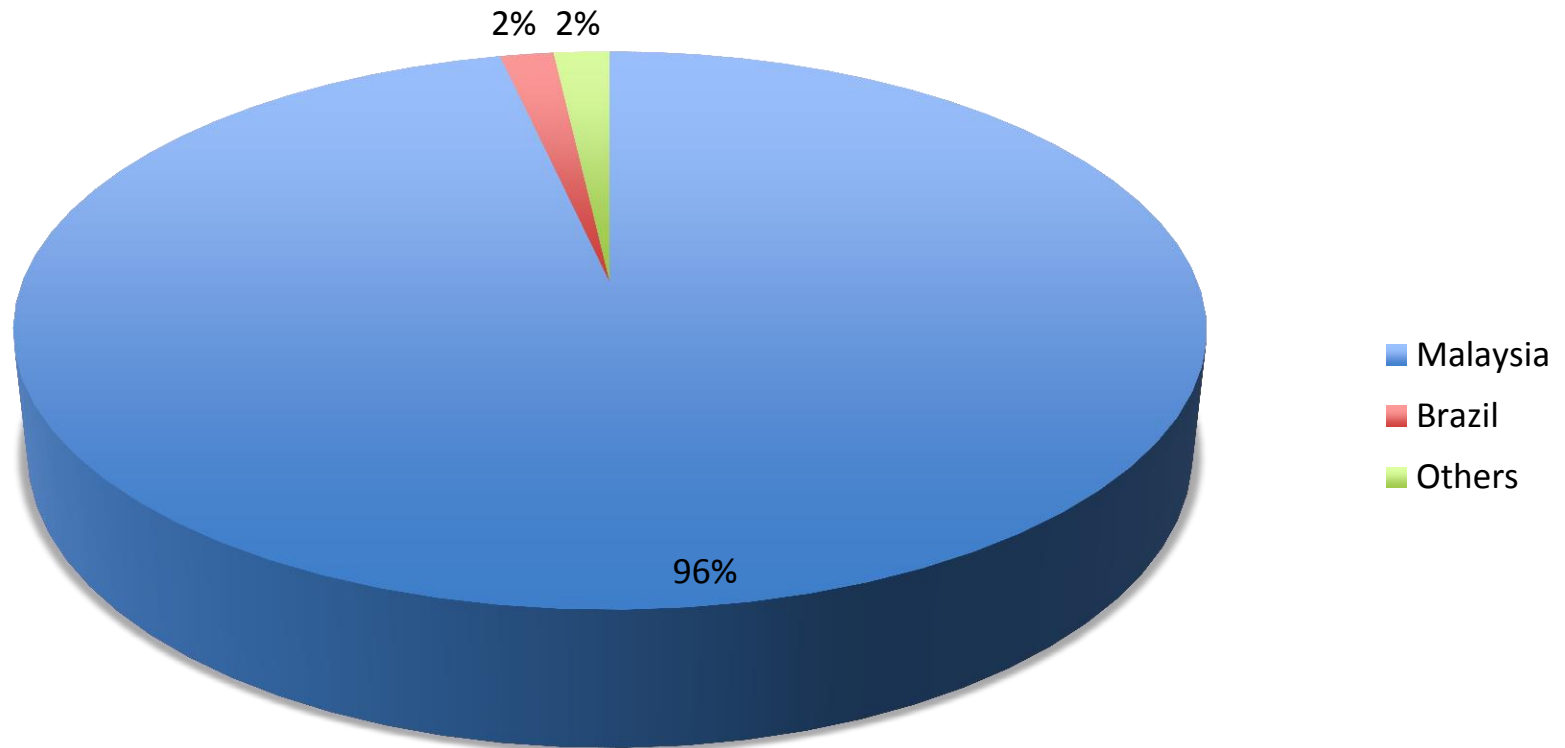
Meranti



Meranti is used for either plywood, interior furniture, veneer, flooring and construction and boat building.

- Commonly known and traded under names including "Meranti", "Lauan", "Lawaan", "Seraya", "Balau", "Bangkirai" and "Philippine mahogany".
- Different species of Meranti are used for either plywood, interior furniture, veneer, flooring and construction and boat building.
- Meranti plywood is used in the furniture sector cabinet interiors and backing, furniture backing and drawers, picture frame backing and crafts.
- Many species in the Shorea genus are on the IUCN Red List. The majority of Shorea species are listed as being critically endangered due to a population reduction of over 80% in the past three generations.

2014 Dark Red Meranti, Light Red Meranti & Meranti Baka wood in the rough imports (m3)



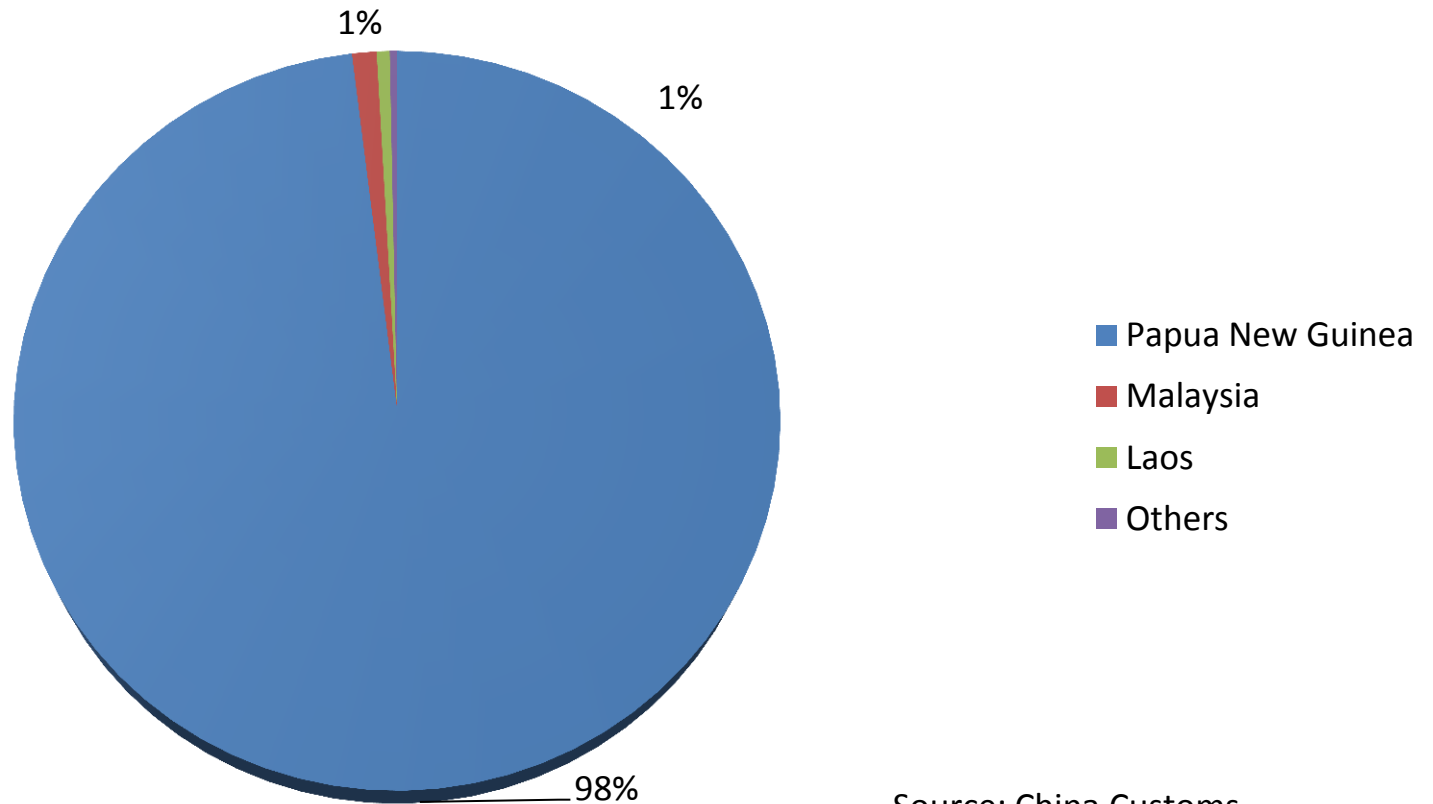
Merbau (Intsia Spp.)



Merbau is used for flooring, furniture, musical instruments, turned objects, and other specialty wood items

- Also known as Kwila and Ipil, *Intsia* spp. or Merbau.
- It is used for flooring, furniture, musical instruments, turned objects, and other specialty wood items.
- In 2014, 98% of Merbau *Intsia* spp. were imported from Papua New Guinea (178,449m³)
- Papua New Guinea has a well-documented prevalence of illegal harvesting and trade.

2014 Imports of Merbau (Intsia Spp.) wood in the rough quantity (m3)



Source: China Customs

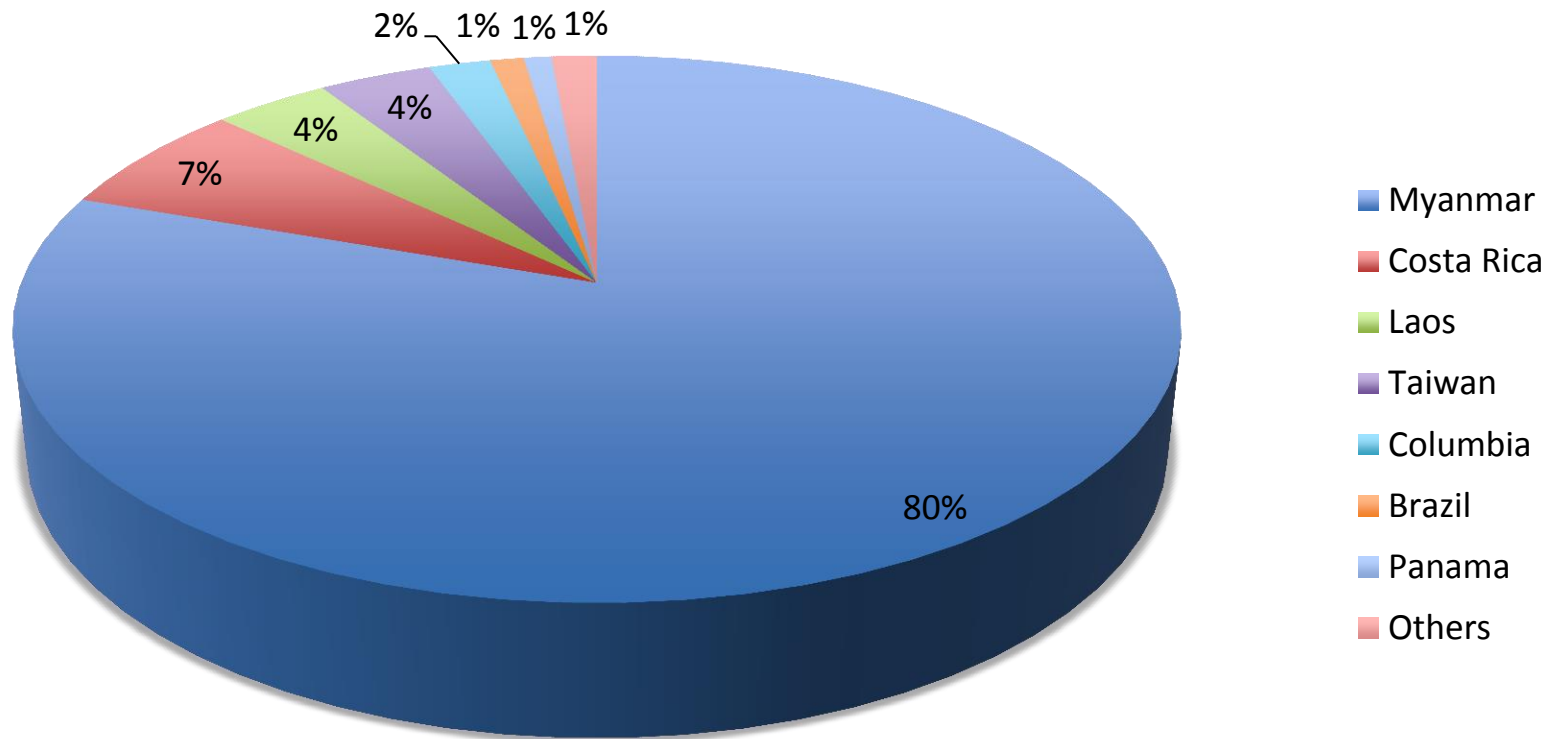
Teak



Teak is widely used for construction, plywood, furniture and cabinets

- *T. grandis*, commonly known as teak.
- It is widely used for construction, plywood, furniture and cabinets.
- Naturally occurring teak is found in Cambodia, India, Lao PDR, Thailand and Myanmar.
- The natural population of teak is greatly diminished.
- Teak plantations cover almost 6 million hectares with the majority in India and Indonesia but also Thailand, Myanmar, Bangladesh and Sri Lanka Cote D'Ivoire, Nigeria, Costa Rica and Trinidad and Tobago.

2014 Imports of Teak wood in the rough (quantity m3)



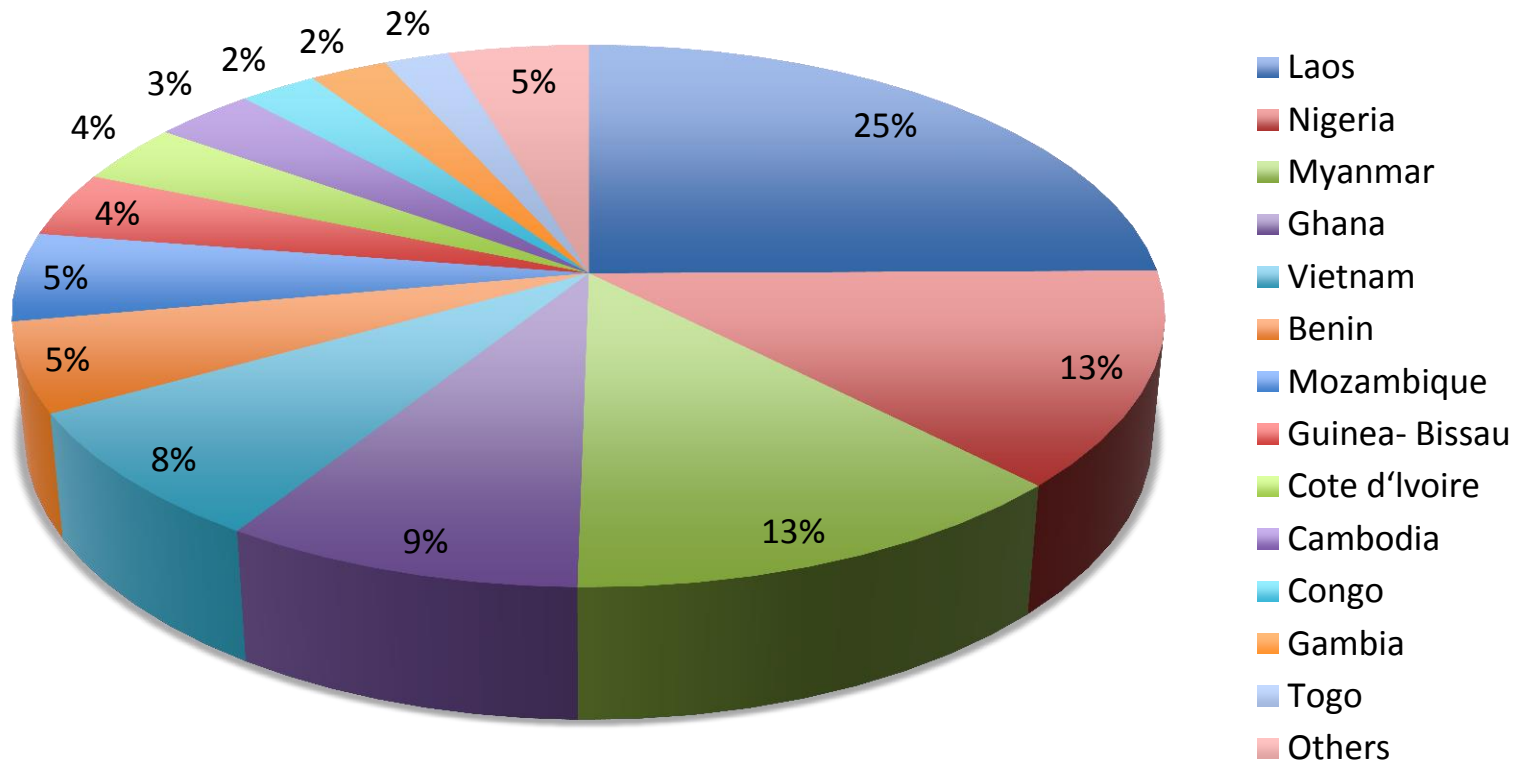
Padauk (*Pterocarpus spp.*)



Padauk is used for construction, crafts, musical instruments and sometimes furniture

- Padauk is used for construction, crafts, musical instruments and sometimes furniture.
- In furniture is an important material in traditional (lacquered) Chinese furniture.
- Laos and Myanmar have a well-documented prevalence of illegal logging of its natural forests. Vietnam processes a significant quantity of wood from Laos and Myanmar.
- Nigeria, Ghana, Benin all have a well-documented prevalence of illegal harvesting and trade.

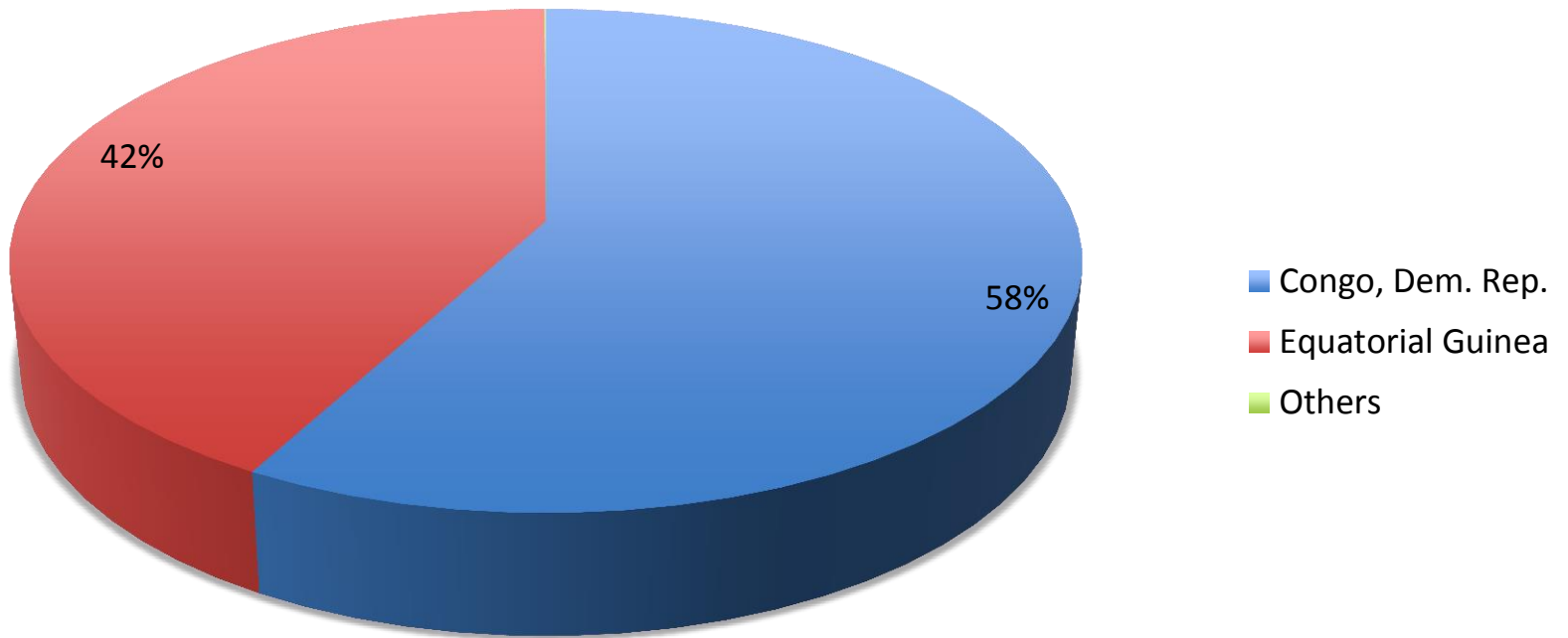
2014 Imports of Padauk Wood in the rough (*Pterocarpus spp.*) Quantity (m3)



Okoume

- Aukoumed Klaineana is native to the natural forests of West coast of Equatorial Africa.
- It is most commonly used in the manufacturing of plywood, particularly for marine uses but also used in light interior construction, carpentry and furniture and packing cases.
- DRC has well documented prevalence of illegal harvesting.
- This wood species is not listed in the CITES Appendices, but is on the IUCN Red List. It is listed as vulnerable due to a population reduction of over 20% in the past three generations, caused by a decline in its natural range, and exploitation.

2014 Okoume (*Aukoumed Klaineana*) Imports, (Volume m3)



**Recycled components and products and
implications for demand-side enforcement**

Demand side legislation approaches to reclaimed/recycled

EUTR

- Timber and timber products as classified in the Combined Nomenclature set out in Annex I to Council Regulation (EEC) No 2658/87 (1), to which the Regulation applies including fuel wood, wood in the rough, sawn wood, plywood, particle board, fibre board, joinery, wooden frames could potentially be categorised as reclaimed/recycled and therefore could be subject to exemption.
- Waste and scrap paper and paperboard including recycled kraft, corrugated paper and paperboard, and recycled pulp are categorized under HR Code 4707 and are outside of the scope of the EUTR.

Lacey Act

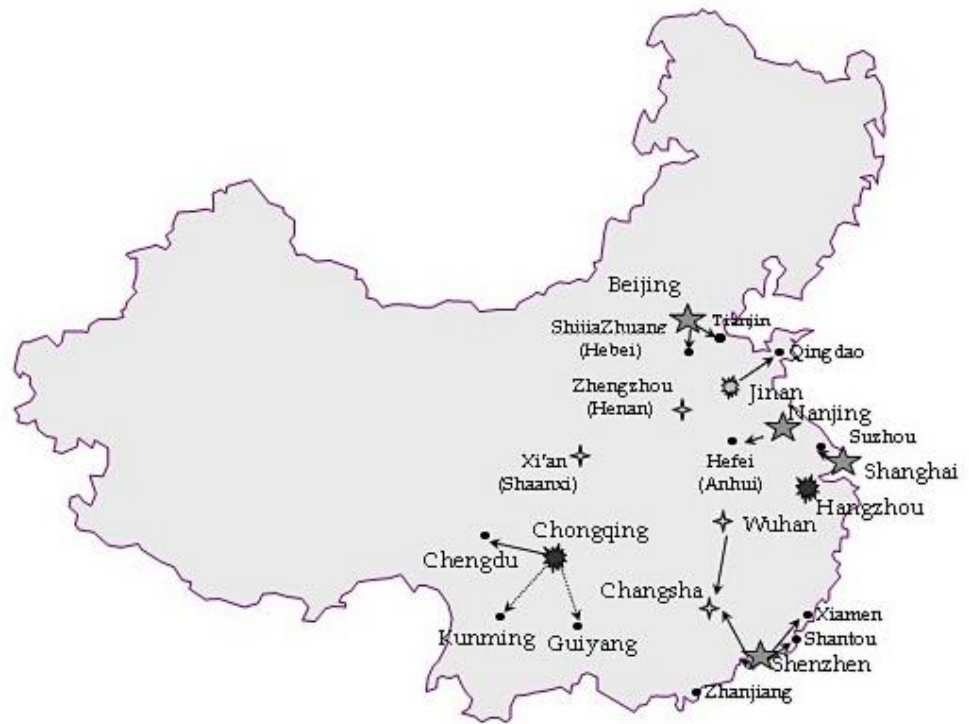
- For composite, Recycled, Reused or Reclaimed Materials or products that are composed in whole or in part of composite materials, such as medium density fiberboard, particle board, or paperboard; or recycled, reused, or reclaimed (including driftwood) materials. If an importer of such materials is unable through the exercise of due care to determine the genus, species, and/or country of harvest of such materials, the importer should use a Special Use Code. By using the Special Use Code, the importer is representing that it is not possible through the exercise of due care to determine the genus, species, and/or country of harvest of such materials.
- If a product is not composed entirely of composite, recycled, reused or reclaimed materials, the importer must indicate the genus, species and country of harvest for all other product components.

Recycled products reflected in customs data?

- With the exception of waste and scrap of paper and paperboard, which are categorized under HR Code 4707, there is no customs data specifically categorizing reclaimed/recycled materials and products.
- Thus, it is not possible to estimate how much or under which product categories products are being exported from China as reclaimed/recycled or having reclaimed/recycled components.

China collection of waste/recycled materials

- China has many distribution centers for recycled wood waste.
- Some companies buy waste wood materials from distribution centres whilst others buy directly from construction sites or manufacturers.



- Materials and products that can incorporate reclaimed/recycled wood waste include
 - wood based panels (particle board and plywood),
 - paper and corrugated board
 - furniture

Plywood

- Sources of wood waste for plywood include deconstruction waste and wood previously used as concrete formwork on construction sites (see case study below).
- One source estimates that about 50% of Chinese exports of film face plywood contain recycled components.
- It has also been stated that this (lower grade) recycled plywood is normally exported to Middle East and Africa markets- however this could not be confirmed.



Reclaimed materials are process and combined with (non-recycled) face and back veneers for the production of plywood

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Furniture

- There is an increasing trend towards using reclaimed wood material for solid wood furniture.
- Common species for solid wood reclaimed furniture include Pine, Oak, Elm, and Teak.
- The main sources of wood for reclaimed solid wood furniture include deconstructed buildings. Wooden fishing boats are also a source sometimes sited. In China, Elm is commonly reclaimed from old Chinese houses for the manufacture of recycled solid wood furniture.



Common species quoted as having been reclaimed are Pine, Oak, Elm, and Teak. In some cases the reclaimed material is mixed and it may not be possible to distinguish the species.

Enforcement/due diligence approaches

- Evaluation of its reclaimed material suppliers including evidence of compliance with standard material definitions of reclaimed/recycled materials and segregation of non-compliant materials.
- Photographic evidence is often used to demonstrate type of material used and material source.
- Evidence of supply chain integrity will usually include evidence of contracts with suppliers, purchase & sales documents for reclaimed materials and second or third party inspection records. In China the tax invoice is the most commonly used method of tracing transactions of materials and products including reclaimed recycled materials and components).
- Since National industry specifications for reclaimed/recycled materials and products are usually employed to by manufacturers, these definitions should be compared to the definitions provided by certification standards or in the relevant demand side legislator terms.
- Where materials do not comply with specified definitions they should be identifiable and/or segregated from complying material in transport, storage and production.

Risks associated with reclaimed/recycled materials and demand side enforcement

- Risk of laundering of non recycled products or components as reclaimed/recycled in order to secure exemption from demand side regulation more of a risk for high value products such as solid wood furniture.
- It will thus be important that operators placing products on markets with demand side legislation operate due diligence system that can provide evidence to support reclaimed/recycled claims and
- That authorities have a legal basis to verify those claims within the scope of their work.