Imports of Composite Wood Products into the EU and Implications for the EU Timber Regulation – Furniture Sector Focus

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INTRODUCTION

This paper outlines the current and likely future significance of a range of composite products in the EU wood import trade and the implications for implementation of the European Union Timber Regulation (EUTR).¹

Trade data are provided for the period 2003–12. The relatively long timescale in advance of the entry into force of the EUTR on 3 March 2013 is intended to capture trends before, during and in the aftermath of the global financial crises, which have had a profound effect on EU wood trade. It also captures the period in which China and several other emerging economies have transformed global trading patterns.

Import data are provided in terms of both the monetary value and quantity of imports. Monetary value is reported in euros. Quantity data are reported in roundwood equivalent volume (RWE) for all timber and wood furniture products. The raw statistical data were derived from the Eurostat bulk download facility. Data were then compiled, cleaned of obvious errors and summarized by Forest Industries Intelligence Ltd.²

Based on the EU’s Combined Nomenclature (CN) commodity classification, furniture data analysed here include all products in Chapter 94 (Furniture) explicitly identified as composed of wood under the headings 9401 (seating) and 9403 (other furniture categories).

In addition to reporting the data, this report includes a brief commentary to identify and analyse trends and their implications for EUTR implementation in relation to the sector.

Defining ‘composite wood products’

While ‘composite wood products’ are mentioned in the European Commission’s (EC) informal guidance on the EUTR, the term does not appear anywhere in the regulation itself. There is also no standard European definition of a composite wood product. The US industry, which for several decades has been heavily involved in innovation in this field, has probably gone furthest to define the term. The US Forest Service’s Wood Handbook³ includes a chapter on Wood-Based Composite Materials which states that these are comprised of ‘any wood material adhesively bonded together’. The Handbook notes that composite wood product elements may be comprised of ‘fibers, particles, flakes, veneers, laminates, or lumber’.

The Wood Handbook goes on to note that ‘wood-based composites encompass a range of products, from fiberboard to laminated beams. Wood-based composites are used for a number of non-structural and structural applications in product lines ranging from panels for interior covering purposes to panels for exterior uses and in furniture and support structures in buildings’.

While the Wood Handbook definition focuses on solid panels, the EC guidance indicates that the problems dealt with in the section on ‘Composite products’ also refer to pulp and paper products, which typically mix fibre from a range of different species and forest sources. It is assumed, furthermore, that the EC guidance also refers to wood joinery and furniture products, each unit of

² Comext, via the Eurostat bulk download facility, provides the raw, unprocessed statistics for all imports and exports of all individual products (classified according to the EU’s Combined Nomenclature – CN) by individual EU member states. The raw data are supplied for each individual month and also for whole years. However, the raw data are prone to error, particularly in recording of ‘supplementary units’ such as the volume of timber products, and need to be processed in order to remove these errors. The data also need to be summarized into meaningful product categories. Comext is available at: http://epp.eurostat.ec.europa.eu/NavTree_prod/everybody/BulkDownloadListing?sort=1&dir=comext
which may contain a complex mix of solid timber, veneer, finger-jointed lumber and laminates, plywood, composite panels and paper-based foil finishes.  

**EU IMPORT TRENDS, 2003–12**

**Trade overview**

*Trade context: composite wood products compared with non-composites*

In 2012 almost 80% of the value of all imports of wood-based products by the then 27 members of the EU (EU-27) met the definition of composite wood products used in this paper (Charts 1 and 2). During that year the EU-27 imported composite wood products with a total value of €21.3 billion, of which wood furniture products represented €5.4 billion (20%).

The significance of composites relative to non-composites increased sharply between 2007 and 2009 with the onset of the global financial crises. Composites accounted for 74% of the value of EU imports in 2007, but the share had risen to 80% by 2009. This was mainly because EU imports of primary wood products such as logs, sawn timber and veneers – which are mainly destined for the construction sector – were more affected by the downturn than were imports of further processed timber products and paper.

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4 For this analysis, the term ‘composite wood product’ is defined to include (based on the EU’s CN commodity classification): the following solid timber products from Chapter 44 (Wood Products): 4410 (particleboard), 4411 (fibreboard), 4412 (plywood), 4415 (packing cases and pallets), 4416 (casks and barrels), 4418 (joinery products), 4419 (kitchenware) and 4420 (marquetry, ornaments and ‘other’); all wood-based pulp products in Chapter 47 (Pulp and Recovered Paper); this includes all pulps, both mechanical and chemical, composed of softwood, hardwood and mixed wood species; all products in Chapter 48 (Paper); all products in Chapter 94 (Furniture) explicitly identified as composed of wood under the headings 9401 (seating), 9403 (other furniture categories) and 9406 (prefabricated buildings). The following are explicitly excluded from the term ‘composite wood products’ for this analysis: Chapter 44: 4401 (fuelwood), 4402 (charcoal), 4403 (logs), 4406 (sleepers) 4407 (lumber), 4408 (veneer), 4409 (mouldings), 4413 (densified wood) and 4414 (frames for pictures and the like); Chapter 47: all pulp types derived from fibres other than virgin wood fibre (such as recycled paper, cotton or bamboo) and all recovered paper; Chapter 49: all ‘printed paper’ products such as books, newspapers and magazines; Chapter 94: all furniture and pre-fabricated buildings in Chapter 94 that are not explicitly identified as composed primarily of wood.

5 Data are for all imports from outside the EU and exclude internal EU trade. Value in euros is used to summarize total trade as it is not possible to provide directly comparable quantitative data for solid timber, pulp and paper.
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EUTR coverage of composite wood products

Analysis of the CN product codes alongside the EUTR text defining current product scope indicates that the vast majority of timber-based products are captured by the legislation. This contradicts other reports that have suggested that a large proportion of timber-based products are not captured by the legislation.

In the 2012 CN code list there are 236 composite wood product groups. Of these, all but 14 are captured by the legislation, of which the following are relevant to the furniture sector: other wood products ‘not elsewhere stated’ (44219091, 44219098), upholstered wood seats (94016100), non-upholstered wood seats (94016900) and wood seat components (94019030).

Of the €21.3 billion of composite wood products imported by the EU-27 in 2012, only €3.3 billion (15%) were not captured by the EUTR (Charts 3 and 4). EU imports of non-regulated composite wood products increased rapidly during the five years prior to the global financial crises and remained stable in 2008–12.

Wooden seating is by far the largest single composite wood product group not captured by the EUTR, accounting for €1.94 billion of imports in 2012. Of this, €1.2 billion was derived from China. Imports of unregulated solid timber composite products in Chapter 44 were valued at €1.34 billion in 2012. Of this, €800 million comprised products described as ‘other not elsewhere stated’ in the CN codes, including €450 million from China.

Significance of external EU trade compared with internal EU trade

The charts below show the ratio of extra-EU imports to intra-EU imports for the main EUTR-regulated composite product groups, respectively by value (Chart 5) and quantity (Chart 6). The

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6 See Annex to the 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 this Regulation applies’.

7 For example, the blog posting by Beatrix Richards of WWF (1 March 2013) that suggests that: ‘Our own research shows that just 47 of the 150 subheadings of timber-based products are within the scope of the EUTR’; http://blogs.wwf.org.uk/blog/campaigns/illegal-wood-gets-the-chop-from-europe-but-world-forests-not-safe-yet/. It is difficult to reconcile the WWF data on product coverage of the EUTR with the analysis undertaken here. If both composites and non-composites are included, the CN classification for 2012 included separate codes for 348 products that are explicitly derived from virgin wood fibre or known to contain a large proportion of virgin fibre (including 173 codes from Chapter 44, 12 codes from Chapter 47, 148 codes from Chapter 48, and 15 codes from Chapter 94. Of these, 329 products are effectively covered by the EUTR.

www.chathamhouse.org 4
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The ratio provides a measure of the extent to which EU importers of these products are dependent on suppliers outside the EU relative to suppliers within the EU.  

Market penetration by external suppliers is relatively high in the furniture sector. In 2012 extra-EU imports of EUTR-regulated wood furniture products of 4.4 million cubic metres RWE were valued at €3.5 billion, compared with intra-EU imports of 14.4 million cubic metres RWE valued at €10.6 billion. EU market penetration by external furniture suppliers rose quite sharply in the years up to 2007. Nevertheless, the EU’s large domestic furniture manufacturing sector has proved quite resilient during the economic crises and has maintained a large and stable share of EU trade over the last five years to 2012.

Wood furniture products

Decadal trend in wood furniture trade flows

Total EU-27 imports of EUTR-regulated wood furniture increased very rapidly before the recession, reaching a peak of 6.2 million cubic metres RWE, with a value of €4.3 billion, in 2007 (Charts 7 and 8). However, similar to solid timber composites, EU imports of wood furniture products were very badly affected by the financial crises. Imports fell to 4.8 million cubic metres RWE, with a value of €3.3 billion, in 2009. Imports have since declined in volume but have risen slightly in value, standing at 4.4 million cubic metres RWE and €3.5 billion respectively in 2012.

8 A ratio of 1 implies that the value or quantity of extra-EU and intra-EU trade are exactly equivalent. A ratio below 1 implies greater dependence on intra-EU trade. A ratio above 1 implies greater dependence on imports from outside the EU.
Wood furniture product groups

At the start of the millennium, the EU market for interior wood furniture was dominated by domestic manufacturers. At that time external suppliers were mainly restricted to the small, niche market for exterior furniture, which at that time was strongly oriented towards tropical wood products (particularly teak).

During the last decade, however, suppliers outside the EU, particularly in China, have taken a larger share of the European interior furniture market. This is particularly true of the bedroom and dining/living room furniture sectors. EU imports of these furniture types increased significantly relative to internal EU trade in the years up to 2007 and have remained quite high ever since (Charts 9 and 10). In other furniture categories, market penetration by external suppliers has been considerably less.

Unlike exterior furniture requiring durable timbers, the vast majority of interior products imported by the EU are manufactured using lightweight panel products like MDF and chipboard, temperate hard- and softwood sawn and finger-jointed timber, and veneer or paper foil surfaces. In China quite a significant volume of Russian birch and oak may be used, although increasing amounts of European and North American hardwoods and domestic poplar and plantation species are now replacing Russian timbers. In Southeast Asia, significant volumes of tropical plantation timbers are also used, including rubberwood (notably in Malaysia and Thailand), plantation teak (notably in Indonesia) and acacia (notably in Malaysia and Indonesia).

9 There has also been increasing penetration of the EU market for wood seating – particularly upholstered – by Chinese and other Asian manufacturers. However, these are not EUTR-regulated and therefore not included in these data.
While external suppliers have penetrated sections of the EU furniture market, local manufacturers continue to dominate. Overall, the share of imports in total EU wood furniture supply peaked at only 16% in 2010 before falling away again to 13% in 2011. This may seem surprising given relatively high labour and other production costs in Europe, but there are several reasons for the continued dominance of Europe in the furniture sector. One factor is the high level of investment in machinery and product development in the European furniture and associated wood material-supplying sectors, which has reduced the relative contribution of labour to overall costs and placed a premium on technical, design and market knowledge. It has boosted the general quality of European products and the perceived value of European brands. European manufacturers have built on this through sophisticated marketing and communication campaigns, which has in turn encouraged high levels of loyalty to European products amongst consumers.

European manufacturers have also exploited other advantages of proximity to the consumer. Increasingly important factors in wood furniture marketing include the ability to supply quickly on demand, respond rapidly to changing tastes and provide customers with support services – including ‘no questions asked’ guarantees for customers wanting to return products.

The factors favouring domestic production over imports are particularly true of kitchen furniture, which in many respects has more in common with the joinery sector than with other components of the furniture market (for example, a large proportion of sales are through building contractors and DIY stores, rather than through furniture retailers).

EU furniture manufacturers choosing to relocate during the last decade have tended to opt for other EU countries in central and eastern Europe, which offer a good compromise between lower costs of production and continued proximity to the large consuming markets of western Europe. German manufacturers have tended to shift to Poland, while many Italian manufacturers have opted for Slovenia. This may in part explain why imports of wood furniture components from outside the EU have declined relative to intra-EU trade in wood components in recent years (Charts 18 and 19).

Another factor has been the development of a very strong fashion for oak in the European furniture sector, which has reduced demand for components in tropical and other woods from elsewhere in the world.

**Extra-EU wood furniture supply regions**

Charts 11 and 12 highlight the extent to which China has come to dominate imports of EUTR-regulated furniture products. During the period 2003–12 China’s share of EU imports increased from 23% to 51% in value, and from 23% to 53% in volume. During the same period, the share of imports from other Asian countries fell from 42% to 32% in value and from 39% to 31% in volume, and share from Latin America fell from 12% to 4% in value and from 15% to 4% in volume. Share of imports from the Commonwealth of Independent States (CIS), Africa and North America also
declined to negligible levels during this period. However, non-EU European countries maintained a share of around 8% import value and 7% import volume throughout the 10-year period.

**Imports of wood furniture by EU member states**

Of the EU member states, the United Kingdom, Germany and France are by far the largest importers of EUTR-regulated furniture products from outside the region (Chart 13). In 2012 the United Kingdom accounted for 30% (1.3 million cubic metres) of all extra-EU imports, Germany for 18% (800,000 cubic metres) and France for 17% (740,000 cubic metres). Other significant importers in 2012 were the Netherlands (288,000 cubic metres – 7%) and Belgium (207,000 cubic metres – 5%).
High variability in member state dependency on wood furniture imports from outside the EU is due to a number of factors, including:

- The presence of very large domestic manufacturing furniture sectors in some countries (particularly Italy, Germany and Poland);
- Proximity to these manufacturers elsewhere in the EU (most other central European countries also source a very large proportion of furniture from Italy, Germany and Poland);
- The degree of loyalty to domestic furniture brands (a major factor behind low levels of imports into Italy);
- Extent of consolidation in the retail sector: external suppliers have had more success developing markets for furniture products in countries with relatively large consolidated retail networks (such as the United Kingdom, the Benelux countries, Germany and France) than in countries with more fragmented retail networks (such as Italy and many eastern European countries).
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IMPLICATIONS FOR EUTR IMPLEMENTATION IN THE FURNITURE SECTOR

The data presented in this report highlight that the success or failure of the EUTR hinges heavily on its ability to enforce credibly in relation to the particular characteristics and complexities of the composite wood products trade. Some 80% of all EU-27 imports of wood-based products by value are defined as composite wood products, of which furniture products represent 20%. The significance of these products relative to non-composites in trade has been rising in recent years, partly reflecting product innovation and partly as a result of economic trends that have particularly undermined markets for traditional solid products.

Hitherto, much of the focus of the policy and implementation discussions at the EC has related to trade and compliance with respect to non-composite solid timber products, particularly those from countries involved in negotiations for a Voluntary Partnership Agreement (VPA) under the EU Forest Law Enforcement, Governance and Trade (FLEGT) programme. Judging from this, and from the rather cursory informal guidance provided by the EC on composite wood products, it is hard to escape the conclusion that insufficient attention has been paid to the implications of capturing such a large, complex and increasingly dominant part of the wood sector within the EUTR.

With regard to products and supply regions for wood composites, this analysis highlights the growing importance of China and, to a lesser extent, Southeast Asia for solid timber composites (notably plywood), wood furniture (notably bedroom and living/dining room furniture) and paper products (particularly cartons and stationery).

Only a very small proportion of EU imports of all composite wood products are covered by the VPA process, with likely negligible furniture production to be licensed in the short-to-medium term at least. In 2012 only 3% of the value of EU imports of EUTR-regulated composite wood products derived from countries that are now implementing a VPA. A further 4% derived from countries currently negotiating VPAs, and 1% from countries in pre-negotiations (Chart 16).

The EC guidance on composite products begins with the assumption that: 'It is often difficult to identify the precise origin of all components of composite timber products. This is especially true for reconstituted products such as paper, fibre-board and particle board, where identifying species may also be difficult.'

This raises the question of just how more ‘difficult’ it is to deal with composite products under the EUTR compared with non-composites. Certainly, identifying species content may be more difficult for reconstituted products. The fibre is often mixed and then altered to such an extent (by heat or chemicals) that no analysis of the product itself – whether visual, DNA or chemical – will identify the species.
None the less, it is debatable whether identifying the 'precise origin' is significantly more difficult for composite products than it is for non-composites. It is true that when dealing with non-composites, DNA and chemical isotope analysis are additional options to identify the region of wood origin. Such procedures, however, while potentially useful for enforcement, are still prohibitively expensive for day-to-day use by wood traders. In all wood product sectors, traceability when required is almost entirely dependent on documentary chain of custody systems. There are features of the supply chain for some composite products that make chain of custody relatively less difficult to document than is the case for many non-composites.

No wood product – with the occasional exception of the very highest-value veneer logs – is packaged or traded item by item. Sawn lumber and veneer, for example, needs to be sorted and selected by species, grade, colour, length, width and thickness at various stages of the supply chain. As a result, the individual pieces of lumber making up a single imported consignment will usually be derived from a small subset of a very large number of forest management units distributed over a wide area. This is particularly true of hardwoods that often have a highly fragmented and varied supply base.10

From the perspective of identifying forest of origin, every parcel of timber imported into the EU is effectively a composite product. The question of whether or not wood material arrives at the port of entry bound together in a single product is much less important for EUTR implementation than are other factors, such as the level of integration in the supply chain or the variability of the forest resource.

It is in the nature of composite materials that log quality is a much less important determinant of quality and grade than is the case in the sawn timber sector, so there is less need to accumulate wood from a wide range of different forest management units over a long period of time. Manufacturers of these materials also tend to source raw material from relatively uniform forest areas – either plantations or northern boreal forests, which are less diverse with respect to species and ownership structure than are semi-natural managed forests, which are often the source of decorative wood species.

The large capital requirement for plants producing composite materials means that they tend to be owned and managed by larger vertically and horizontally integrated companies with a relatively high level of control over the whole supply chain. This is in contrast to the sawmilling sector, which tends to have lower barriers to entry and is often much more fragmented.

All this implies that composite products, including furniture, are not a special case demanding a different and distinct interpretation of the EUTR. However, separate consideration of composite products is useful in highlighting the crucial need for competent authorities to understand and take adequate account of supply-chain complexities of all imported forest products. It is important to recognize that mixing of wood from a wide range of different sources is an integral part of an efficient and cost-effective supply chain, helping to ensure efficient utilization of forest resources, delivery of higher-quality products and continued competitiveness vis-à-vis other material sectors.

10 For example, a typical EU import consignment of sawn American hardwoods will contain a mix of grades and species. With the recession, in fact, EU importers have become increasingly reliant on regular shipment of small mixed consignments and have been less inclined to import large loads of a single species, size or grade. The wood making up each grade of each species will come from a small subset of a very large number of possible forest management units. There are at least 4 million hardwood forest owners in the United States, each with less than 10 hectares and each of which may only harvest once in a generation. Since wood derives from semi-natural managed stands, a single harvesting operation usually produces logs of differing size and grade. It may well also include a mix of species. The logs from each harvesting operation are sorted into piles by species and grade, either at roadside at the harvesting site or when entering the mill. The best quality logs may be sent on to a veneer plant, high-to-medium quality sent to the saw mill, and the lowest quality sent for firewood, chipping or pulping. A single log when sawn, sliced or peeled will produce a wide variety of grades and sizes of lumber or veneer, depending on the part of the log from which it is derived (e.g. whether it is heartwood or sapwood), the grain, and the distribution of knots and other characteristics. Production of lumber involves sorting by species, grade, length, width and thickness. It is not unusual for a single sawmill to produce over 100 different sort combinations even before the lumber is sent for kilning. One sort combination may gradually accumulate from numerous shifts using many different parcels of logs. There will then be additional sorting after dry kilning to deal with degraded material. Wood will then be selected and combined from a wide range of different bundles to prepare a single consignment for export.
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The challenges of implementing the EUTR specifically in relation to furniture are probably more pronounced than is the case in any other sector. The wood content of furniture products is often extremely complex, a single piece combining composite and reconstituted panels with a variety of veneers and sawn timber, a large proportion of which may be finger-jointed from offcuts in a wide variety of woods from numerous sources. Much of the wood content of a furniture item may be hidden, particularly in the case of upholstered products.\(^{11}\)

There has been some consolidation in the international furniture sector in recent years – particularly driven by IKEA in Europe – but the industry remains very fragmented compared with many other industrial sectors.\(^{12}\) The wood furniture sector in particular is characterized by relatively low barriers to entry, is still often based on small-scale artisan operations and is very widely distributed. Because labour makes up a relatively high proportion of costs, the industry has also been drawn to locations in the developing world that are additionally often characterized by high levels of corruption and by a large informal business sector.

Even IKEA, the largest and most integrated furniture company in the world, has highlighted the considerable challenges of conforming fully to a strict interpretation of EUTR requirements across all its operations. The company is sourcing wood raw material from hundreds of thousands of different forests of origin every year. At every stage of the supply chain and during the manufacturing process, there is mixing of wood material from innumerable different sources. Despite the resources at its disposal and implementation of a very comprehensive due diligence system, IKEA emphasizes that ‘it is not normally possible to trace individual product back to the forest’ and that ‘physical tracing of wood is resource inefficient’.\(^{13}\)

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11 Since all seating (CN/HS Code 9403) is not currently included in the list of products covered by the regulation, this is less of a problem than it might be for the EUTR.
12 The world’s 200 principal furniture manufacturers only account for around 30% of total production worldwide. IKEA is believed to be the single largest manufacturer and accounts for around 6% of the total global market. Three-quarters of IKEA sales and most of the company’s manufacturing capacity are located in Europe – most in central and eastern Europe, with a high concentration in Poland. China is now the largest wood furniture manufacturing country in the world. In 2010 China had 3,701 wood furniture manufacturing enterprises, of which 3,442 were small enterprises.
13 Anders Hildeman, IKEA. Presentation on policing due diligence, Preparing for EUTR Implementation Workshop One, hosted by Chatham House, Brussels, January 2013.