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Wood Packaging Study

Quantification of the Manufacture & Repair of Wood Packaging in the UK, 2013

A Study

for

TIMCON and the Forestry Commission

timcon
timber packaging and pallet confederation

Forestry Commission

by

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Background to the Research:

TIMCON, the representative body for the timber pallets and packaging industry provides support to its members through technical initiatives, environmental and political lobbying and ensuring the industry is fairly represented over legislative issues. Over the last five years, TIMCON has also part-sponsored research into its served markets to inform members of changes that are taking place on an industry-wide basis and to provide input to its work in negotiations with suppliers, customers and government.

This, the fifth, Wood Packaging Study is part of the process to measure how the industry is performing to support these efforts.

This study is also co-sponsored by the Forestry Commission which has a requirement to provide information to inform forestry policy. The packaging and pallets industry is one of the leading consuming markets for UK forest products, consequently the Forestry Commission has a keen interest in this market including the important need to understand how supply and demand is changing over time.

The market information provided by this report is therefore used to inform the industry of the development of usage characteristics and trends; provide facts and figures for TIMCON in its work in the many different fields of activity in support of its members and by the Forestry Commission in pursuit of its policy and operational remit for woodlands in Scotland and England.

TIMCON and the Forestry Commission commissioned *timbertrends*, an independent analyst, to carry out this work during 2014.

This report quantifies the development of the wooden pallets market in the United Kingdom to 2013 and provides a short statement on the prospects for 2014.

Objectives of the Research:

To estimate the value and quantities of wooden pallets manufactured and repaired in the UK, leading to estimates of timber usage. This would involve providing:

1. Estimates of the value and/or quantity of
    - new pallet manufacture and repair in the UK
    - heat treated (ISPM15)
    - kiln drying
    - sales by market sector
2. Estimates of timber consumption by pallet manufacturers in the UK, including estimates of timber supply by country.
3. To provide an estimate of how the industry might perform in the coming year.
4. To further investigate the differences between data supplied by the Office for National Statistics (ONS) and industry data and report on steps taken to reconcile these differences.

Scope of the Research:

The scope of the research involved engagement with manufacturers of wooden pallets and pallet pool operators in the UK within TIMCON membership.

Methodology:

The methodology adopted for this study involved questionnaires despatched to TIMCON members by e-mail and selected use of the telephone.

A questionnaire was devised for contact with TIMCON members, a copy of which can be found in Annex III of this report.

Measuring the supply of manufactured and repaired timber pallets in the UK required a careful and deliberate approach, because of the structure of the industry.

The market comprises many small firms, a good number of middle-sized firms, larger firms and a number of very large firms operating within the industry. The activities of these companies are not homogenous, with differing emphases on manufacturing and repair and also different ways of getting pallets to market. This is exemplified by the difference between manufacturers and pallet pool operators with manufacturers mostly selling their output while pallet pool operators rent pallets for use by customers.

The measurement of the industry and identification of the trends taking place has been further developed in this report through the introduction of a question aimed at identifying the quantities of new pallets that are consumed by the major markets.

Also, the question of how TIMCON members view the forthcoming year, in terms of the likely change in turnover for their companies, was included in the survey work.

The availability of data from the four previous studies, revisions of data by key TIMCON members and information supplied by newly responding companies has enabled a better estimation of industry turnover.

Further detail of the programme of work and methodology used can be found in Annex II to this report.

Executive Summary

The year 2013 may well have signalled the beginning of a recovery in the timber pallets market that, like many other industries in the UK, has experienced difficult trading conditions since the recessionary years of 2008 and 2009.

Between 2008 and 2013, pallet makers have seen reductions in demand, increases in costs, little real increases in sales prices - exacerbating already poor profitability - and increased pressure to comply with new regulations, such as the European Union Timber Regulation.

Growth in turnover of the pallets industry in 2013, although modest and welcome, did little to continue to redress the trading difficulties that have persisted for over four years.

The significant difficulty of raising prices while timber prices continue to rise has ensured that profitability remains weak as the industry's cost base continued to come under pressure.

In 2013, the average price of newly manufactured pallets fell by around 4% whereas prices of UK grown pallet timber were reported to have increased by an estimated 14%. The differential between UK grown timber prices and imported construction timber prices has closed over the last eighteen months. UK pallet timber prices are reported to have risen in 2014 by a further 10%. These substantial cost increases are of critical importance to pallet manufacturers as timber prices comprise an estimated 70% of the costs of a newly manufactured pallet. The discrepancy in pallet price and pallet timber price trends could be explained by significant changes in product mix.

A further development has been an increase in the re-use of existing pallets which, although supporting the environmental credentials of the industry, has reduced the quantities of pallets returned for repair in the last two to three years and this has contributed significantly to the decline in pallet production and repair work.

However, in 2013, a large increase in material usage was seen, indicating that although fewer repairs may be carried out, the extent of those repairs is greater as the condition of re-used pallets progressively deteriorates.

Despite a small reduction in the number of repaired pallets, the year 2013 saw turnover of pallet production and repair increasing, albeit by different amounts.

This fifth Wood Packaging Study reports that this growth is believed to have accelerated in 2014.

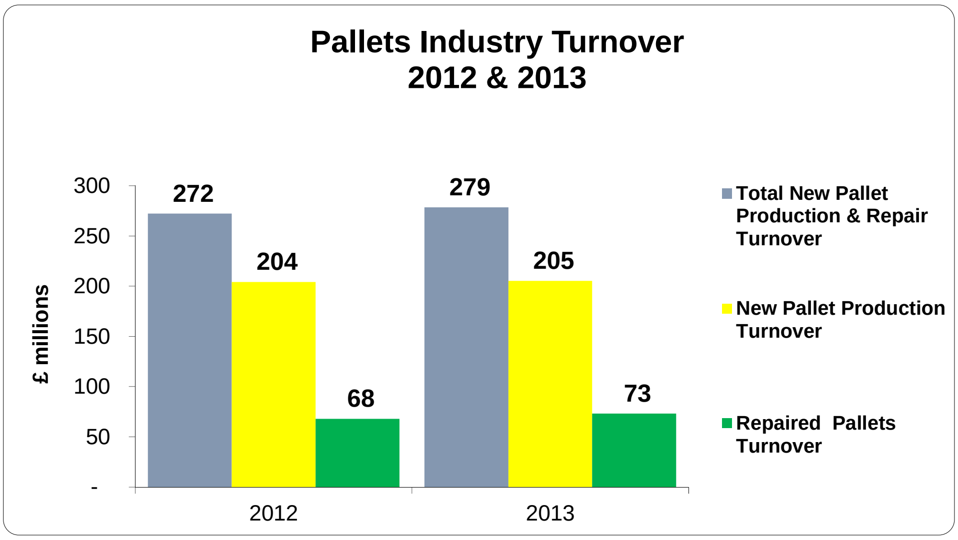
Pallets Industry Turnover

Turnover of the pallets industry in 2013 was estimated to have grown by around £7 million to a total of £279 million, an increase of 2.3%

The increase in turnover of new pallet production in 2013 was marginal - 0.5% over 2012 - taking total turnover for new production to just over £205 million from just over £204 million in 2012.

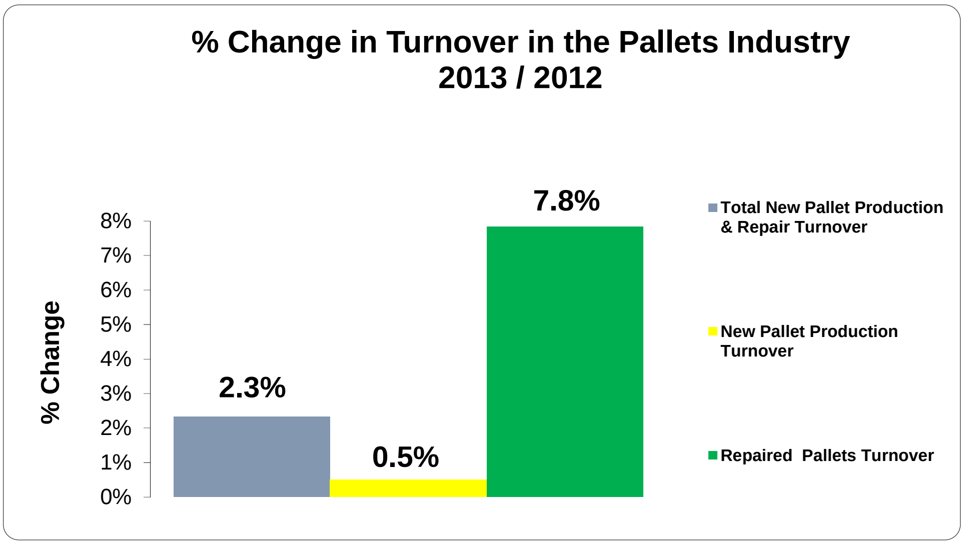
The increase in turnover of pallet repairs was more robust, at 7.8%, but from a much lower base than new production. The turnover in pallet repairs was estimated to have grown to around £73 million in 2013, up from £68 million in 2012.

The charts below summarise.



The estimated turnover of new pallet production was derived from the survey conducted for this Wood Packaging Study and estimates of turnover of Wood Packaging Marking Member Programme members from previous surveys, including ProdCom - the published turnovers of production industries supplied by the Office for National Statistics (ONS).

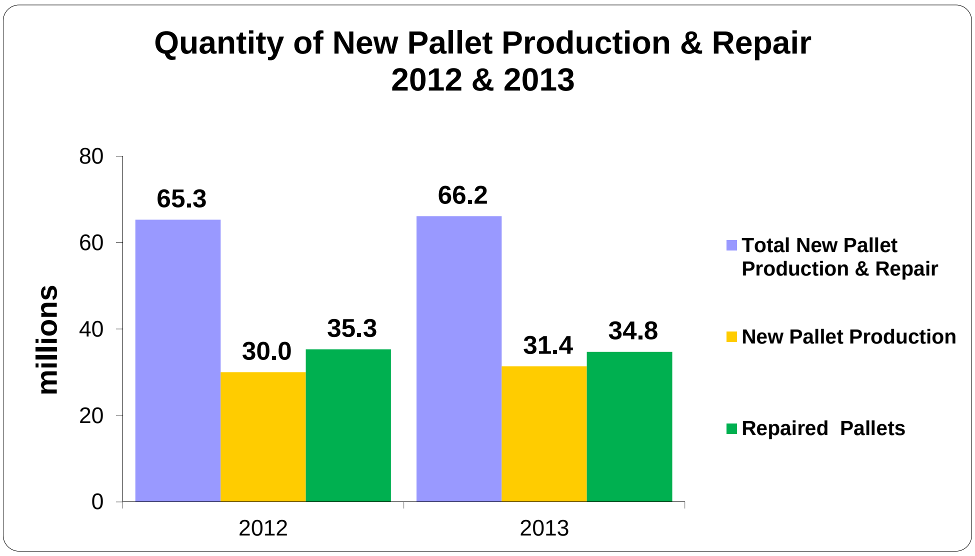
The percentage changes in 2013 for each category, as described above, are provided below.

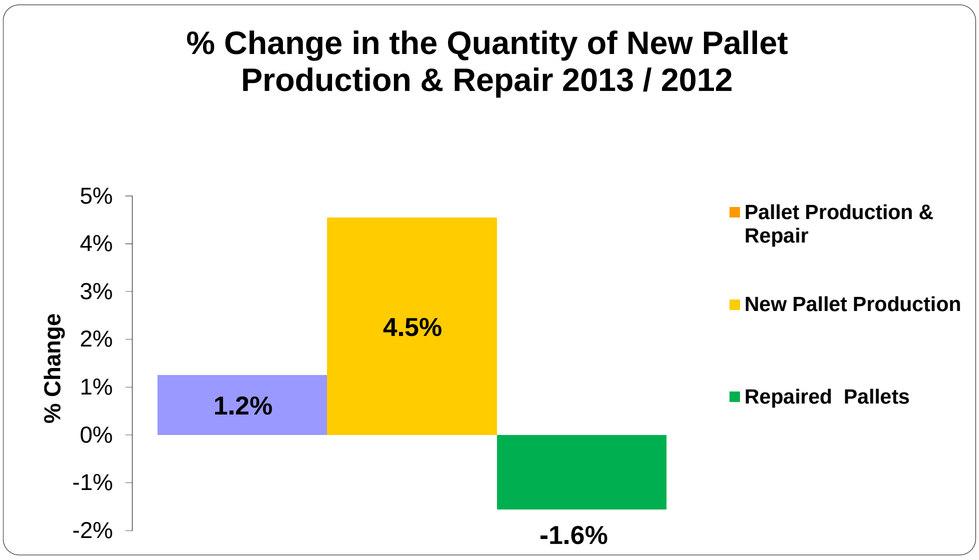


Quantity of Pallets Produced and Repaired
The quantity of both newly manufactured and repaired pallets increased in 2013 by just over 1%, to 66.2 million.

Within this total, the quantity of newly manufactured pallets rose from 30.0 million in 2012 to 31.4 million in 2013, an increase of 4.5%.

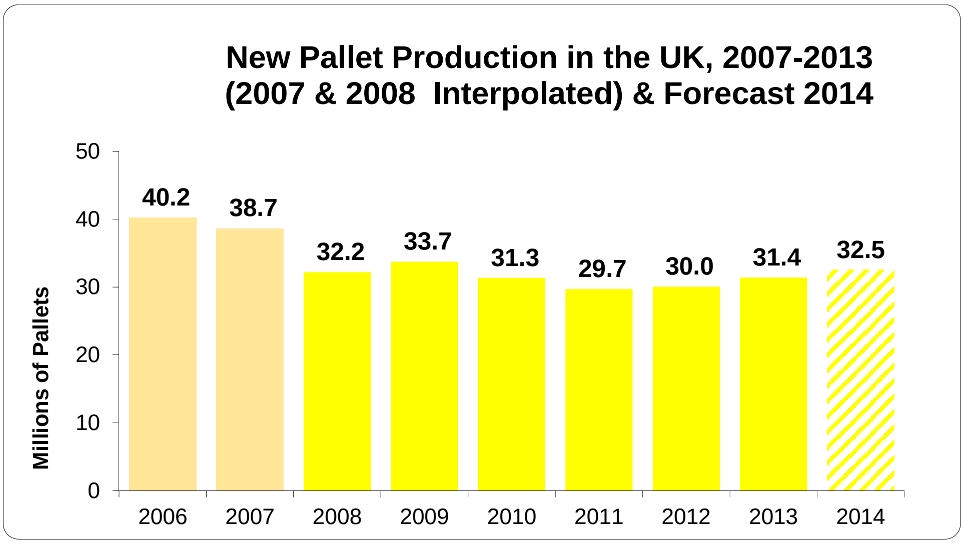
The quantity of repaired pallets was slightly lower in 2013, by 1.6%, down from 35.3 million in 2012 to 34.8 million in 2012. These changes are shown in the following charts.





Despite a small decrease in the quantity of pallet repairs in 2013, a greater number of repaired pallets coming to market over the last few years has made a negative impact on new production which, when coupled with generally lower economic activity since 2007 has seen production levels at between 13% and 23% lower than in 2007.

However, new production increased in 2013 by over 4% and forecasts provided by TIMCON members for this report indicate that further growth will be realised in 2014 of a little over 3%, providing growth, albeit relatively modest, for the third year running.



Pallets Industry Employment

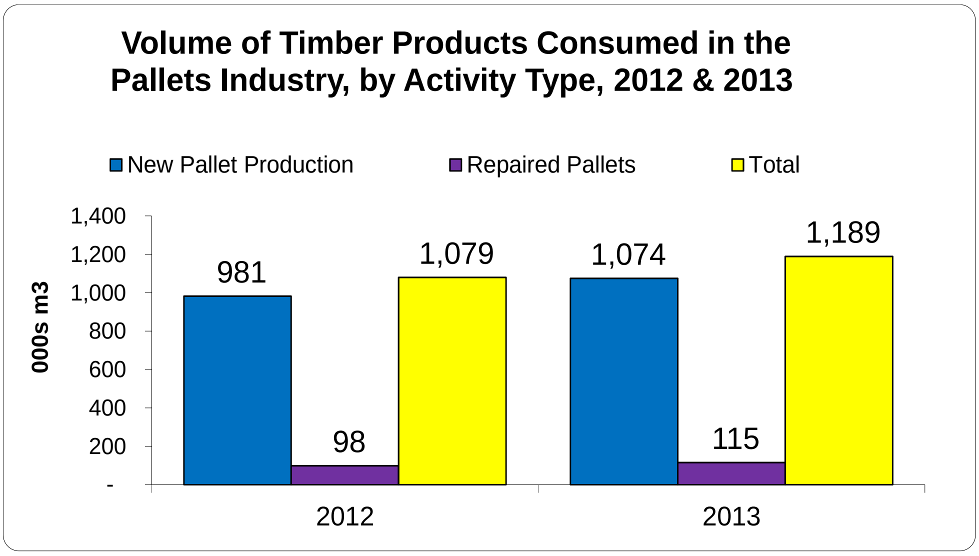
It is estimated that pallets industry employment in 2013 increased by around 2%. Virtually all TIMCON manufacturing members produce pallets resulting in an estimated number of people employed in pallet production and repair of 1,938 in 2013. Many WPMMP members also produce pallets, but a breakdown of employees per different type of packaging produced is not available. Based upon previous studies, it is estimated that the total number of WPMMP member employees engaged in pallet activity in 2013 was 373. Combining the two, the total number of employees estimates to be involved in the pallets industry in the UK in 2013 was just over 2,300.

Pallets Industry Timber Usage

The estimated volume of timber and wood products (sawn softwood, hardwood and manufactured wood products) used by the pallets industry in 2013 was higher than in 2012 by around 100,000m^3, or 0.4% This resulted in consumption of 1.19 million m^3, compared to 1.08 million m^3 in 2012.

The estimated volumes used by TIMCON and WPMMP pallet manufacturers over the last two years is shown in the chart below.

The volume of timber used for new pallet production in 2013 increased by 9.5%, to 1.07million m^3 while an additional 17% was used in pallet repair, taking the volume consumed to approximately 115,000m^3 as shown in the chart below.



Heat Treated & Kiln Dried Pallets

In 2013, it is estimated that the number of heat treated pallets produced by TIMCON manufacturing members decreased to 7.8 million (including a small proportion of bought-in heat treated timbers) from 8.5 million in 2012.

The extent of kiln drying of pallets has increased in recent years as stricter regulations governing the transport of goods and foodstuffs in particular, have made an impact on production numbers. The Wood Packaging Study for 2013 explicitly asked manufacturers for the number of kiln dried pallets produced and from these responses the total number of kiln dried pallets produced by TIMCON members with kilns was calculated. This aggregated to a total of 5.2 million kiln dried pallets which equates to 19% of the production of all TIMCON members.

Markets

This year's Wood Packaging Study made enquiry of the destinations of new pallets by different market sectors. Based upon the results from the survey conducted for this report, it was estimated that in 2013, the construction industry accounted for 30% of the output from TIMCON manufacturing members. Quantities consumed by construction are estimated to have been greater than twice the amount of the next most important markets which include fast moving consumer goods markets (e.g. foodstuffs), paper and the chemicals industry.

Findings:

Turnover of the UK Pallets Market

The combined turnover of newly manufactured and repaired pallets rose once more in 2013 to a level of £278.6 million, an increase of 2.3% over the revised total of £272.2 million in 2012.

The turnover of **newly manufactured** pallets in the UK for 2013 amounted to £205.3 million which was 0.5% higher than the revised total of £204.3 million in 2012.

The turnover of **repaired** pallets in 2013 was £73.2 million compared to the revised total of £67.9 million in 2012, an increase of 7.8%.

For many years, the only industry-wide measure of packaging and pallets activity in the UK was provided from ProdCom, delivered by the Office for National Statistics (ONS). This is a comprehensive data series of production of PRODucts of the European COMmunity and is a European Union (EU) wide survey. This series covers around 3,866 products classified to around 234 industries in manufacturing, but also in service, repair and distribution industries.

Companies involved in the annual ProdCom Inquiry supply sales data for the products they manufacture, as well as non-manufacturing income. Within Division 16 of ProdCom which is concerned with sales of wood products is a sub-division, No: 16241133 which measures sales of flat pallets and pallet collars of wood and also sub-division No: 16241135 which measures sales of box pallets and load boards of wood, excluding flat pallets.

Work has been progressing with ONS to reconcile the differences between the published turnover and quantity estimates in the ProdCom series for pallet manufacturing and those provided in this series of Wood Packaging Studies.

There has been a number of distinct differences between these two sources over the years and more information is provided on how these differences are being resolved in Annex I to this report.

According to the provisional ProdCom estimates for 2012, the total turnover for flat pallets produced in the UK was £307.5 million.

This was later revised to £310.2 million.

The ProdCom release for 2013 included the final ProdCom estimate for 2012. This revealed the estimated turnover for 2012 for flat pallets was £350.1 million.

The final estimate for 2012 was around 14% higher than the provisional estimate which, it is believed, was partly due to the efforts of TIMCON, through this Wood Packaging Study, to request ONS to review and possibly amend its estimates for wooden pallet production in the UK.

The amendments made by ONS for 2012 have had the opposite effect of reconciling the two sets of estimates however. As shown above, the Wood Packaging Study estimate of turnover for pallets in 2012 was £272 million: the final ProdCom estimate was £350 million.

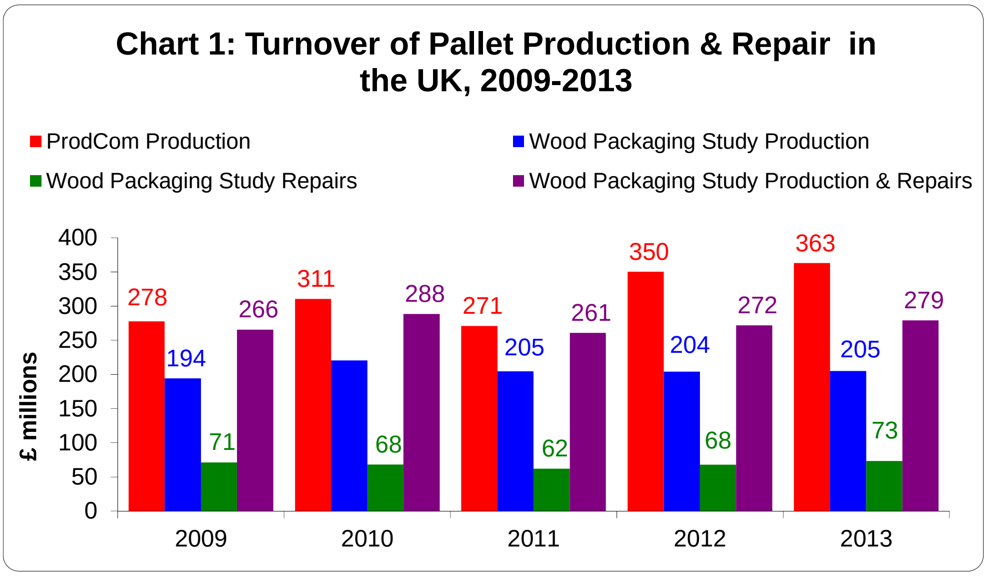
For 2013, the ProdCom turnover estimate was £362.9 million compared to the Wood Packaging Study estimate for 2013 of £278.6 million, a difference of 23%.

The common agreement between the two sets of numbers was the confirmation of turnover growth in 2013 with the Prodcom estimate revealing a 3.6% increase and the Wood Packaging Study showing an uplift of 2.3%.

The value of pallet production in the UK as measured by ProdCom from 2007 to 2013 is shown in chart 1 below, alongside the turnover estimates from the Wood Packaging Studies conducted since 2009. The differences in turnover between 2009 and 2011 were between 32% and 43% higher than those from the Wood Packaging Studies but this discrepancy has risen sharply for 2012 and 2013 where the differences have been 73% and 77% respectively.

The pallets industry has long-believed that ONS had been including pallet repair turnover in its estimates while purporting to only report on new pallet production. If the Wood Packaging Study value (turnover) of pallet repairs is added to the Wood Packaging Study estimates for new pallet production, the differences between the two data sets reduces considerably; to the 17% in 2012 and the 23% for 2013, as reported above.

These estimates are shown in chart 1 below.



As described in previous Wood Packaging Study reports, dialogue with ONS revealed that the ProdCom pallet series, described as 1624 1133 (CN 4415202) Flat pallets and pallet collars of wood, measures newly manufactured pallets and **major** repairs and refurbishment.

It was possible that the turnover from non-major pallet repairs had been classified to Division 33 of ProdCom, which is a division dedicated to repair and maintenance and would not be counted within the production series 1624 1133.

Following initial investigations by ONS, it would appear that this has not occurred and that the great majority of (non-major) pallet repairs had not been measured by ONS in Division 33 or in Division 16. More recently, ONS have conceded that repaired pallets may well have been incorrectly included in the totals for Division 16 of ProdCom. These investigations were part of a wider remit instigated by ONS to contact industry to determine if a more precise set of questions on pallet manufacturing and repair might improve the data quality and possibly help to reconcile the differences between the two sources.

Further detail on the dialogue between industry and ONS is provided in Annex I of this report.
The Wood Packaging Studies consider a more detailed set of questions than the ProdCom series however and all further reporting of industry activity in this report is derived from the Wood Packaging Study for 2013 and studies for previous years.

The turnover estimate for pallets in the Wood Packaging Study includes estimates of the turnover of TIMCON member companies and those belonging to the Wood Packaging Material Marking Programme (WPMMP). Members of the Wood Packaging Material Marking Programme manufacture many forms of packaging and because of this diversity, precise quantities of the many different forms of packaging cannot be measured effectively.

However, some members of the Wood Packaging Material Marking Programme (not within TIMCON membership) also manufacture pallets and these quantities have previously been estimated and added to pallet production derived from TIMCON members to provide as complete an estimate as possible of pallet making and repairing in the UK.

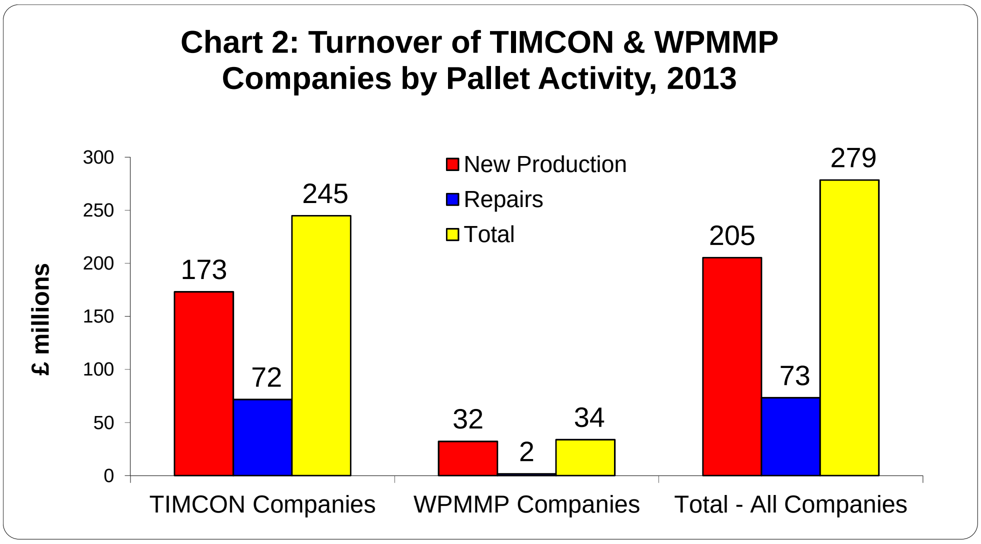
As described in the "Scope of the Research" earlier in this report, this Wood Packaging Study has not attempted to measure the non-pallet packaging manufacturing activity in the UK, preferring to concentrate upon a wider breadth of research into timber pallet making and repairing.

One of the additional areas of research has been to identify the market destinations of newly manufactured pallets and the results of this work are provided a little later in this report.

The estimated turnover of pallet production and repair from the Wood Packaging Study, as indicated above, was £279 million for 2013 which comprised a turnover of around £245 million from TIMCON member companies and turnover of £34 million from WPMMP companies. The turnover of WPMMP companies has been estimated using data from previous Wood Packaging Studies and the latest information available from ProdCom.

As indicated above, those companies within TIMCON membership that are also WPMMP members were excluded from the estimate for WPMMP companies turnover.

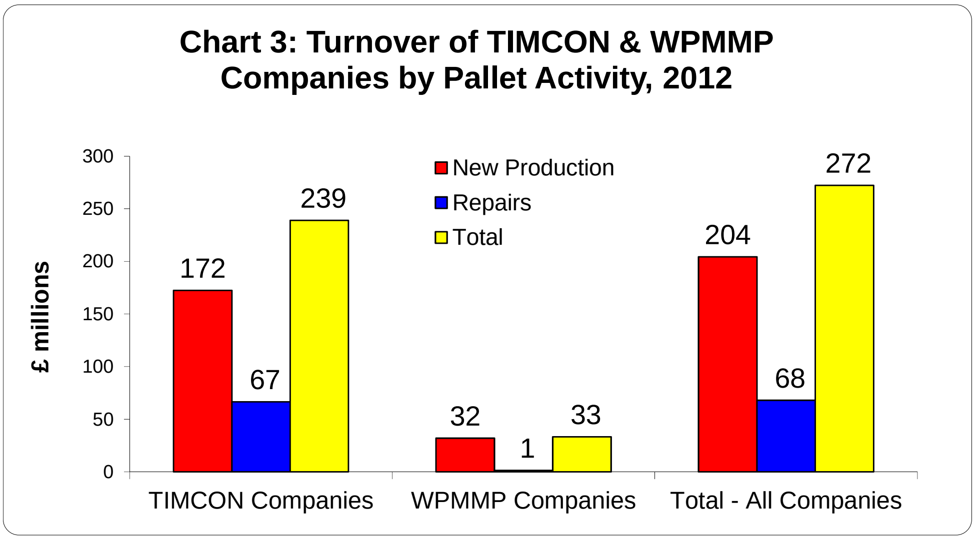
Chart 2 below shows the breakdown of different activity by TIMCON and WPMMP member companies.



TIMCON member companies' total turnover increased in 2013 by 2.5% to around £245 million.
WPMMP companies' total pallet turnover was estimated to be higher by 1%, rising to just under £34 million.

Specifically for new pallet production, TIMCON member companies' turnover rose by 0.4% to £173 million.

For ease of comparison, the turnover of TIMCON and WPMMP members for 2012 is shown below in chart 3.

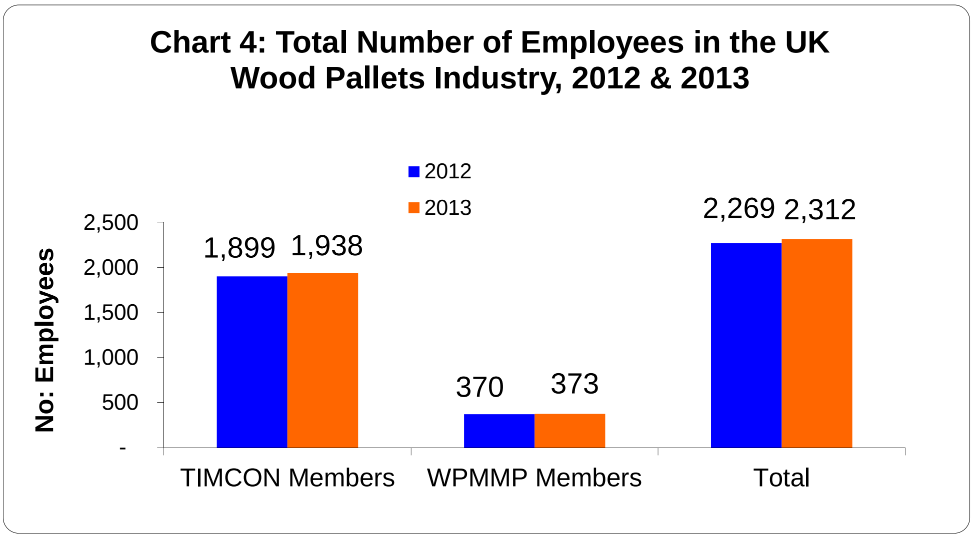


Industry Employment

The number of people employed in wooden pallet production and repair in 2013 is estimated to have risen by around 2% in 2013.

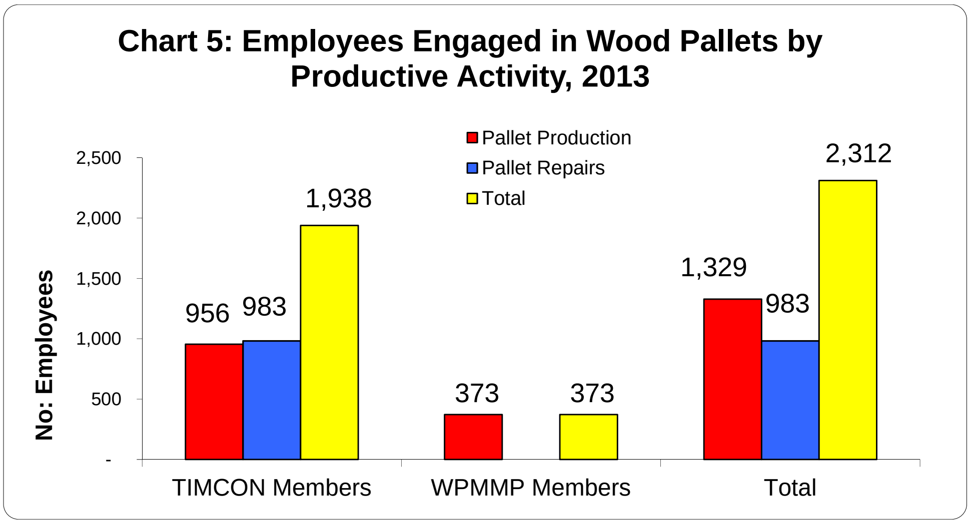
The number of employees engaged in pallet making and repair by TIMCON members companies was estimated to be slightly higher, at 1,938 in 2013.

The numbers employed by WPMMP members in pallet making and repair was estimated to have been marginally higher than the 370 people in 2012.



The measure of industry-wide average turnover per employee has changed in this report compared to previous reports because of the exclusion of non-pallet activity. The average relating to just pallet activity reached a level of £121,000 in round terms, higher than the £120,000 recorded in 2012. This represented an increase of 0.5% in 2013,

A further breakdown of employment by activity by TIMCON members companies and WPMMP companies in chart 5 below shows the relative sizes of the employment pool for production and repair activity. It should be noted that it was not previously possible to split the numbers of employees of WPMMP members by activity because of the very small number of repairs that are carried out. It is also likely that there is a greater incidence of 'employee cross-over' in WPMMP companies where personnel are regularly engaged in both production and repair.



The estimated numbers employed in all new wooden pallet production in 2013, of 1,329 is a little higher than the 1,310 people estimated to have been employed in 2012. Within this total, TIMCON companies employed 956 people which represented 73% of all employment in pallet production.

TIMCON companies account for virtually all employment in pallet repairs. Approximately 40 more people were estimated to have been employed in pallet repair activity in 2013 than in 2012, taking the total to 983, an increase of 2.5%.

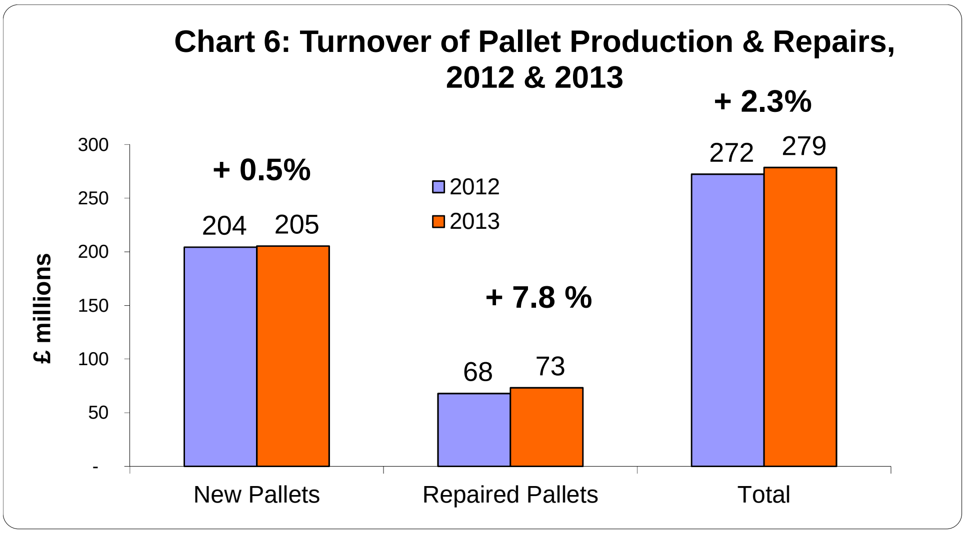
Pallet Production and Repair Values & Volumes

As shown in chart 2 earlier in this report, the turnover of pallet production and repair in the UK in 2013 was £279 million.

It is estimated that £205 million of the £279 million was accounted for by newly manufactured pallets and a little over £73 million by repaired pallets.

The combined increase in turnover of both newly manufactured and repaired pallets in 2013 of approximately £7 million from £272 million in 2012 was 2.3%.

The values and percentage change in newly manufactured and repaired wooden pallets are shown in chart 6 below.



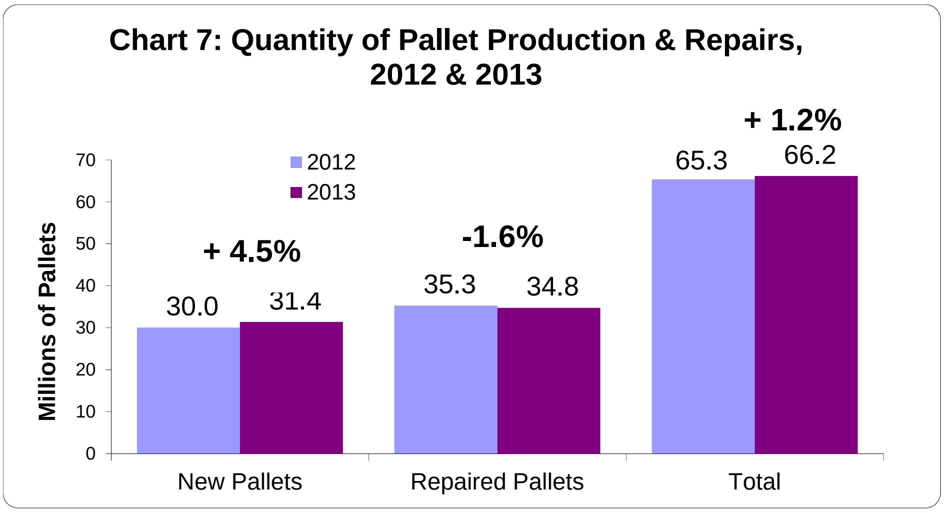
The increase in value of the pallets industry in 2013 of 2.3% was driven by a 1.2% increase in volume of pallets produced and repaired and a 1.1% rise in the overall average price for all pallet activity.

The overall 0.5% increase in the turnover of newly manufactured pallets was derived from an increase in volume and fall in the average price per pallet. The year 2013 saw a 4.5% increase in volume, but average prices fell by nearly 4%. A changing mix of pallet types could be largely responsible for the fall in average pallet prices compared to the previous year. The volumes and values for 2013 reported by pallet manufacturers through the survey for this report, when averaged, recorded a fall over 2012 as higher volumes of less expensive pallets were consumed by pallet buyers.

The destination of pallets by market sector is a new departure in this Wood Packaging Study (see page 25 – Pallet Consumption by Market), therefore comparisons with previous years are not available in this report.

Price inflation was a feature in the development of repaired pallets in 2013. The 7.8% increase in the turnover of repaired pallets in 2013 was the result of a combination of an increase in average price of 9.5% and a reduction in volume 1.6%. The 1.6% reduction in quantity was as a result of TIMCON and WPMMP companies repairing fewer pallets in 2013 and the Pool Operators, as a group, repairing more pallets in 2013.

The quantities of new and repaired pallets in 2013 are shown with the percentage changes in chart 7 below.



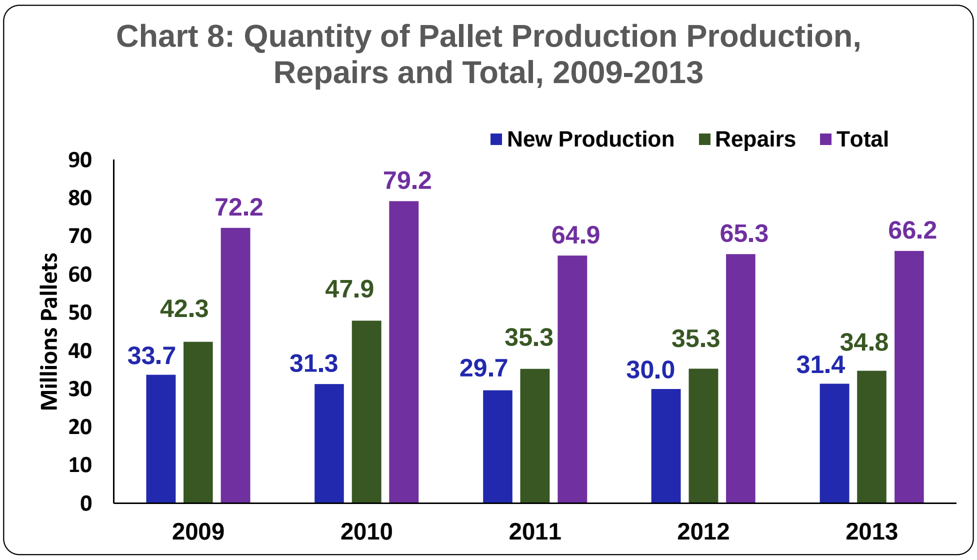
The medium-term trend of pallet usage from the recessionary years of 2008 and 2009 has been downward, but not consistently so.

In 2010, a modest recovery appeared to have begun with quantities and turnover higher than in 2008 and 2009. This improvement was short-lived however and in 2011, overall activity was once again lower.

Growth, albeit very modest, returned in 2012 with manufacturers and pool operators increasing output and receiving better value for their products.

In 2013, more newly manufactured pallets were produced than in 2012, a growth of 4.5% as shown in chart 7 above. A further small fall in the number of repaired pallets took place in 2013 but as shown in chart 6, better value was obtained for the quantity produced.

The Wood Packaging Studies have been produced for five years and over this period, an alternative to trend data as supplied by ProdCom has been developed, enabling a medium-term pattern of supply to be provided, as shown in chart 8.



For data before 2009, reliance upon ProdCom data was necessary and despite the questionable accuracy of these data, quantities in the first decade of this century were higher than over the last five years, from 2009.

The overall level of new pallet production has remained at similar levels throughout the last five years, although there has been a perceptible, if small, increase in quantity from 2011.

The year 2010, for the UK economy in general and also for the pallets industry specifically, was one where output was higher and thoughts of a return to sustained economic growth were prevalent. The year 2010 was not the beginning of the recovery however and a return to weak demand and lower output was a feature of 2011.

The ‘spike’ in demand for pallets in 2010 was in large part satisfied by a greater number of repaired pallets coming onto the market.

Pallet timber input prices rose strongly in 2010, resulting in double-digit increases in new pallet prices and the consequent pressure on costs for pallet buyers. These higher costs of new pallets encouraged pallet users to buy fewer new and make greater use of repaired pallets.

This was a major factor in the greater number of repairs in 2010.

This process of greater usage of repaired pallets and higher levels of re-use of existing pallets had the effect of depressing new pallet production. Also, in order to help control costs, pallet users were re-using existing pallets in greater quantities. This practice of ‘managed recovery’ where pallets were often being re-used rather than returned for inspection and repair was increasing, and thereby depressing the number of pallet repairs being carried out. This has become particularly evident over the last three years when demand in the economy and for pallets returned to its weaker, post-recessionary levels after the ‘spike’ of activity in 2010.

In overall terms, there has been little real growth in the pallets market over the last three years, but the prospect that higher levels of activity took place in 2014 have been identified by pallet manufacturers and this change is further developed later in this report.

Estimates of Wood Utilisation in Pallet Production and Repairs

In the production of newly manufactured pallets, timber usage (softwood, hardwood and manufactured wood products) was estimated to have been 1,074,000m^3 in 2013 (981,000 m^3 in 2012) and for repaired pallets, timber usage was around 115,000m^3 (98,000m^3 in 2012).

Collectively, the volume of wood products used in pallet production and repair in 2013 rose to approximately 1,189,000m^3 which was 10% higher than volumes in 2012. This was in the main driven by the increased levels of new pallet production in 2013 which was, as shown in chart 7, higher by 4.5%. The material content of new pallet production also rose in 2013, higher by over 3% with the average wood content of a pallet in 2013 at 0.0342m^3 compared 0.0326m^3 in 2012.

These two factors of increased output and higher material usage resulted in a 9.5% rise in wood utilisation in 2013.

Wood usage in repaired pallets increased by 17% in 2013 while the number of repairs fell slightly, by 1.6%. The reason for the greater volume of wood used was the much higher material content per repair which increased by 19% in 2013. This suggests that while repair output was at broadly similar levels as in 2012, the extent of the repairs carried out involved the greater usage of wood products. Effectively, the condition of pallets returned and sent for repair had deteriorated significantly in 2013.

The average usage per repair in 2012 was recorded at $0.0028m^3$ and this increased in 2013 to $0.0033m^3$ per repair.

It should be noted that wood usage is usually 9-10 times greater in newly manufactured pallets than in repairs, therefore the rise in wood consumed for repairs has had less of an impact in overall terms.

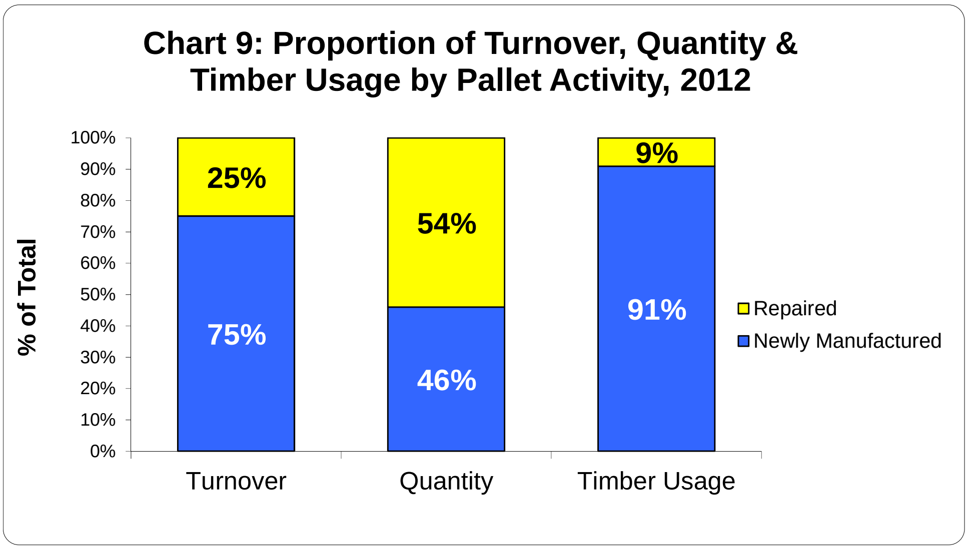
As noted in the previous section of this report, pallet makers are under continuing price pressure from users, wishing to keep their own costs down.

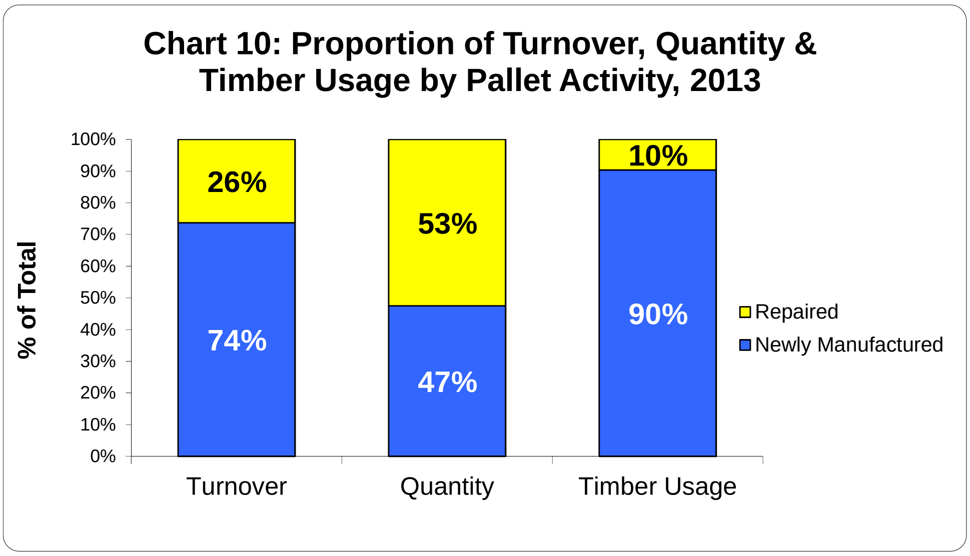
Pallet makers are also under cost pressure from increased timber prices. This is particularly acute as wood accounts for a large proportion of pallet makers' costs. Typically, timber comprises 70% of a pallet maker's revenue, therefore timber price rises that cannot be passed forward to customers exert a depressing influence on pallet manufacturers' profitability.

Prices of UK supplied softwood have tended to follow the price movements of imported softwood, which have been generally on an upward path over the last five years, but in 2013, price inflation of UK grown timber was substantially greater than for imported timber. With around three-quarters of pallet makers' supply coming from UK suppliers, the cost of timber for pallet manufacturers from all sources of supply has continued to rise in recent years with significant acceleration of timber prices in 2013.

Pallet manufacturers are therefore being squeezed from both sides: from customers resisting price increases and from timber suppliers passing on raw material price increases.

The differences in timber usage, alongside the proportions of newly manufactured and repaired pallets by industry turnover and quantities for 2012 and 2013 are shown below in charts 9 and 10 below.





The higher prices received for repaired pallets and the slightly lower prices of new production in 2013 have contributed to a small shift in the share of turnover for these pallet types. New production still commands the major share of turnover however, with average prices 3-4 times greater than repaired pallet prices.

In contrast, the slight reduction in the number of repaired pallets in 2013 has resulted in a small fall in the share of repairs as a percentage of all pallet activity.

The higher growth in wood used in repairs in 2013 has also had an impact on the share of wood products used with repairs accounting for 10% of all wood used.

Turnover, Quantities & Timber Usage of Pallet Production and Repair

The estimates of turnover, the quantities produced and the volumes of timber products consumed by the pallets industry, as shown in the charts of the previous section of this report, were derived from a number of sources. A survey was conducted among TIMCON member companies in 2014 to gather data on the year 2013 and data from the TIMCON membership database were also used to verify and refine the estimates used to measure the different types of activity. To supplement these estimates, individual contact was made with selected pallet manufacturers and pool operators to gauge activity levels for 2013. These estimates for 2013 and 2012 are shown below in tabular form.

Table 1: Pallet Turnover, Quantity and Timber Usage, 2012 & 2013

	Pallet Turnover - £000s		Pallet Quantities - 000s		Timber Usage - 000m3	
	2012	2013	2012	2013	2012	2013
WPMMP Pallet Production	31,916	32,236	4,280	4,361	141	144
TIMCON Pallet Production	172,408	173,114	25,755	27,037	840	930
Total Pallet Production	204,325	205,350	30,035	31,399	981	1,074
TIMCON & WPMMP Pallet Repairs	67,929	73,249	35,301	34,753	98	115
All Pallets Manufactured & Repaired	272,253	278,599	65,336	66,151	1,079	1,189

The changes in each type of activity between 2012 and 2013 shown in table 1 above are quantified in table 2 below.

Table 2: Pallet Turnover, Quantity and Timber Usage, Percentage Change 2012 & 2013

	Pallet Turnover - % 2013/2012	Pallet Quantities - % 2013/2012	Timber Usage - % 2013/2012
WPMMP Pallet Production	1.0%	1.9%	1.9%
TIMCON Pallet Production	0.4%	5.0%	10.7%
Total Pallet Production	0.5%	4.5%	9.5%
TIMCON & WPMMP Pallet Repairs	7.8%	-1.6%	17.3%
All Pallets Manufactured & Repaired	2.3%	1.2%	10.2%

From the data in table 1, it is possible to derive average values and usages per activity and identify the percentage changes that have occurred between 2013 and 2012. These are shown in table 3 below.

Table 3: Pallet Values and Material Usage and Percentage Change 2012 & 2013

	£/Pallet		%	m3/Pallet		%
	2012	2013	Change	2012	2013	Change
WPMMP Pallet Production	7.46	7.39	-0.9%	0.0330	0.0330	0.0%
TIMCON Pallet Production	6.69	6.40	-4.4%	0.0326	0.0344	5.5%
Total Pallet Production	6.80	6.54	-3.9%	0.0327	0.0342	4.7%
TIMCON & WPMMP Pallet Repairs	1.92	2.11	9.5%	0.0028	0.0033	19.1%
All Pallets Manufactured & Repaired	4.17	4.21	1.1%			

The increase in turnover in 2013 of 2.3% for all pallet manufacturing and repair (Table 2) was derived from the 1.2% increase in quantities of production and repairs (Table 2) and the increase in average prices of 1.1% (£ per pallet % change in Table 3).

Pallet manufacturers continue to have difficulty in pushing through price increases for their products and it is noticeable that the change in average value in table 3 above (1.1%) compares unfavourably with average timber price inflation in 2013 of around 3%.

Timber Consumption & Source of Supply

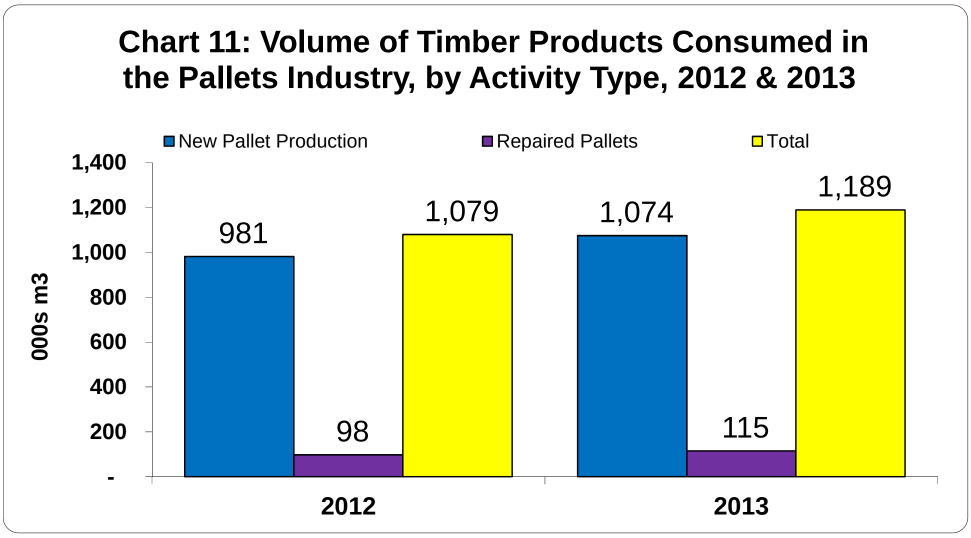
The wooden pallets and packaging industry in the UK is a significant user of timber and wood products. According to the Forestry Commission's publication, Forestry Statistics 2014, providing data on forestry and wood products to 2013, the pallets and packaging industry remained one of the leading user markets for sawn softwood, accounting for around a third of the output of the larger sawmills in the UK in 2013.

Combining the estimates from larger mills published in Forestry Statistics with estimates of supply by smaller mills, it was believed that the consumption of softwood by the packaging and pallets industry in the UK amounted to around 1.5 million m^3. Of this total, it was estimated that UK produced softwood from UK sawmillers accounted for around 1.1 million m^3.

Specifically for pallet making and repair (not including industrial and other forms of packaging) it is estimated that around 1.2 million m^3 of all wood products (including imported wood products) was consumed in 2013.

In addition to sawn softwood, there are other wood products in general use in the pallets industry and these include hardwood (e.g. aspen, alder, birch mainly from the Baltic States), plywood (mostly for non-pallet packaging) and composite pallet blocks.

The volume of wood products consumed by activity type in 2013 is shown in chart 11 below with comparative data for 2012.

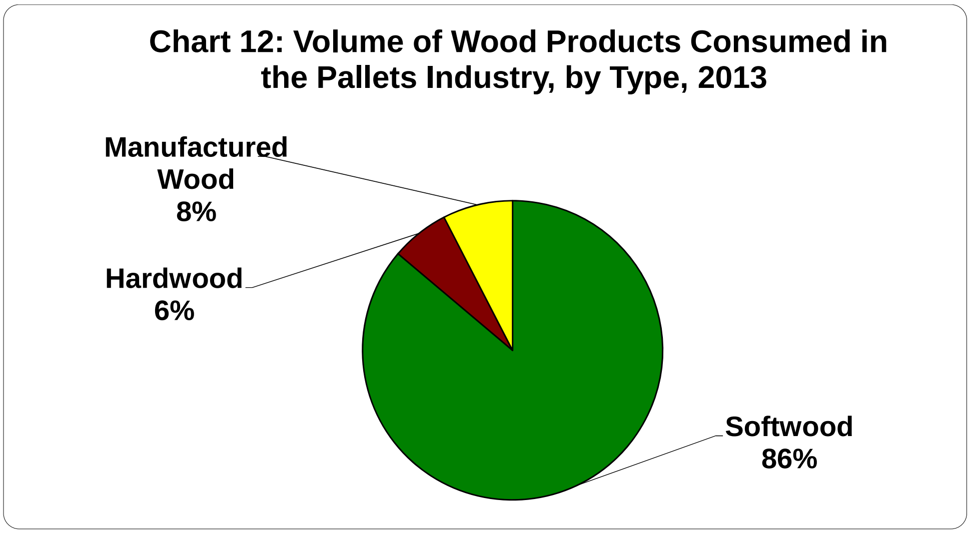


Consumption of timber and wood products rose in 2013 by 10.2%.

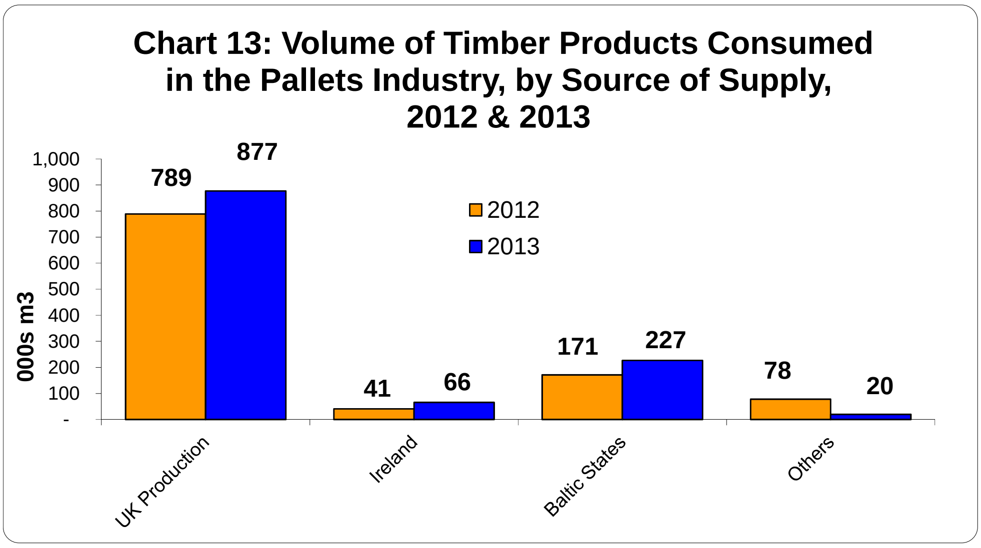
Usage in new pallet production rose by 9.5% to climb above the million m^3 mark and volume used for repairs rose to 115,000m3, an increase of just over 17%.

Softwood remains the most popular timber product used in the pallets industry, accounting for 86% of all timber and wood products consumed in 2013 (87% in 2012). Increased volumes of hardwood, mostly from the Baltic States, were consumed in 2013, higher by 10%, but this growth rate was similar to the overall growth in wood products consumption, maintaining the share of hardwood usage at 6% of the total. Manufactured wood products, including plywood, OSB and composite blocks increased its share of the total a little, to 8% of the total, from 7% in 2012.

The percentage breakdown of the 1.19 million m^3 of wood products consumed in 2013 by pallet production and repair is shown in chart 12.



As referred to earlier in this report, **UK produced** softwood holds a large share of all softwood supply to the pallets industry while the Baltic States are the largest supplier of **imported** wood products in addition to being the major supplier individually of hardwood to the pallets industry. The volumes consumed by the major sources of supply are shown in chart 13 below.

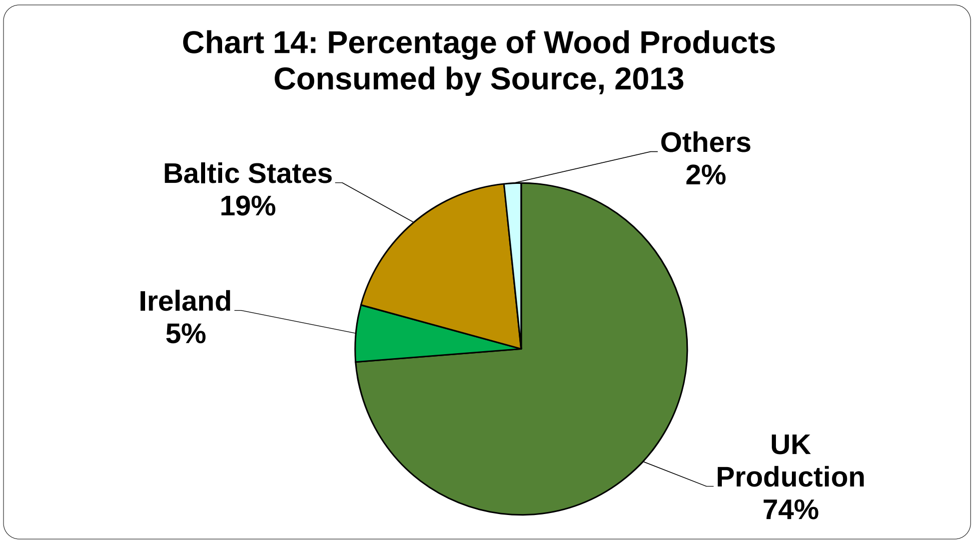


This series of Wood Packaging Studies has confirmed the importance of UK sourced sawn softwood and an 11% growth in usage in 2013 increased slightly the share of UK produced softwood as a percentage of all wood products used by the pallets industry. This stood at nearly 74% in 2013, up from just over 73% in 2012,

The highest growth in volume of any country of supply was achieved by the Republic of Ireland, raising exports to 66,000m^3, an increase of nearly 60%, but from a relatively low base. This enabled the Republic of Ireland to raise its share of supply to 5.5% from just under 4% in 2012.

The Baltic States and especially Latvia enjoyed increased penetration of the pallets market in 2013, increasing volume to 227,000m^3, an increase of over 50,000m^3 or nearly a third, to increase its share of supply to 19%. Palletwood buyers have reduced the number of sources of supply in 2013 and this is demonstrated by the sharp reduction in volume from all other countries. The share of 'others' has dropped from 7% in 2012 to around 2% in 2013.

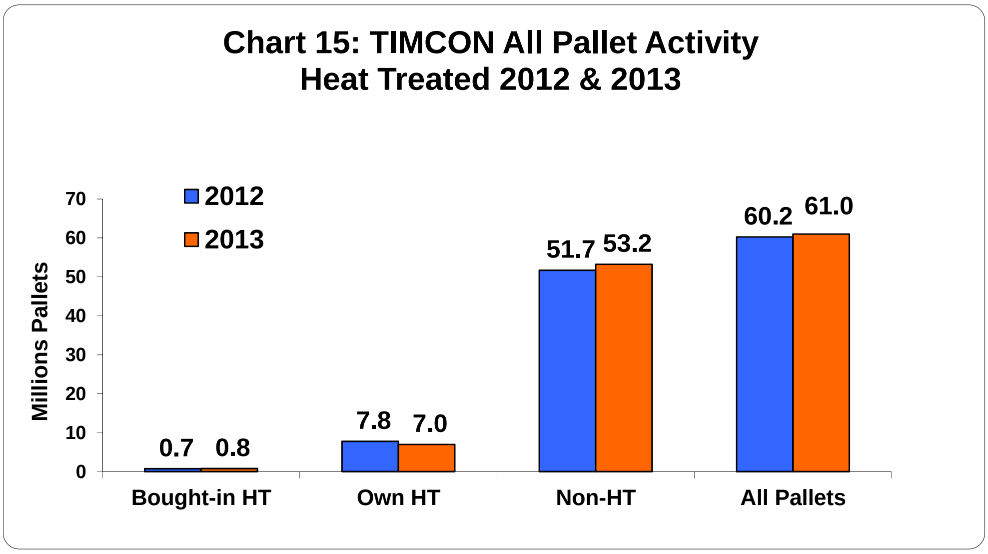
The breakdown of supply in percentage terms from all main sources is shown in chart 14.



Heat Treatment and Kiln Drying Capacity in the UK

For the first time in a number of years, it is estimated that fewer heat treated pallets were supplied in 2013. In 2012, it was estimated that 8.5 million heat treated pallets were produced and in 2013, production fell to just under the 8 million mark. This reduction could be explained though weaker UK exports and change in product mix.

The breakdown of heat treated and non-heat treated supply is shown in chart 15 below.



Using data from previous Wood Packaging Studies, an estimate of the number of heat treated pallets supplied through third parties and those produced in-house by pallet manufacturers has been made.

While the number of bought-in heat treated pallets has remained at very similar levels in 2013, output from pallet manufacturers with kilns has slipped in 2013, by around 700,000 units.

The development of heat treatment has been recorded through the Wood Packaging Studies in the last four years and it was estimated that in 2010, around 24% of all new pallet production by TIMCON members was heat treated, rising to 26% in 2011 and in 2012, this proportion rose to 32% of the total. The lower number of pallets heat treated in 2013 has meant the percentage of heat treated pallets provided by all TIMCON members (including those without kilns) has fallen to 29%.

The 7.8 million heat treated pallets produced in 2013 represented around 31% of the output of TIMCON members with kilns in 2013, down from 35% in 2012.

As noted in previous reports, a trend towards more kiln dried pallets has been partly responsible for the rise in heat treated pallets because, by virtue of kiln drying, many pallets are also heat treated.

As described previously, pallet users are demanding more kiln dried pallets and with much longer kiln usage cycles required for kiln drying, the capacity to only heat treat pallets (which require substantially less kilning time) is severely reduced.

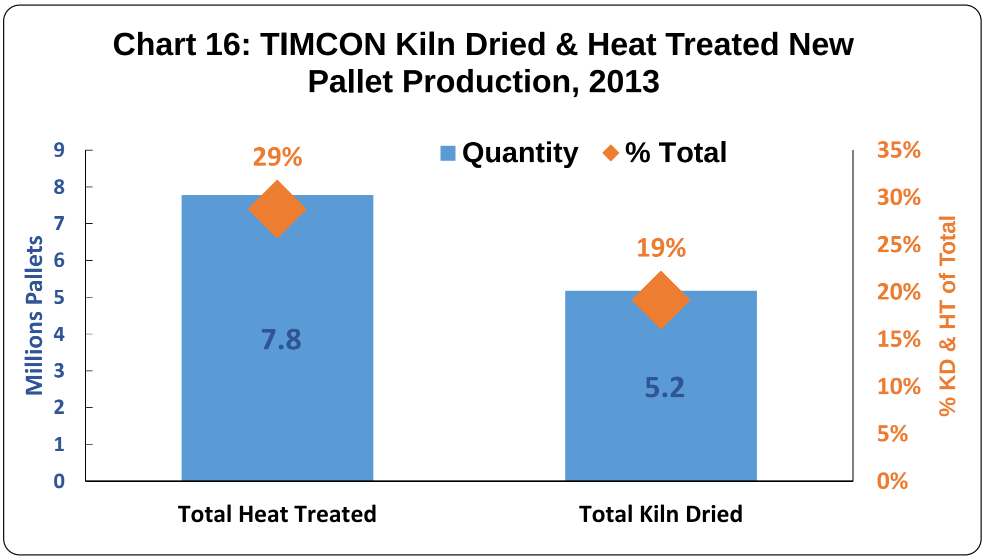
Insufficient data exists at this time to confirm this trend statistically, but of the respondents to the survey for this Wood Packaging Study, only 16% of the output from these manufacturers was specifically for heat treated pallets while the remaining 15% of heat treated output was by virtue of kiln drying.

The ability of TIMCON members to supply sufficient numbers of heat treated pallets to satisfy any eventual (legal) requirement to supply only heat treated pallets remains severely restricted. The output of new pallets from TIMCON members with kilns in 2013 was a little less than 23 million pallets which represented around 85% of all TIMCON membership production in 2013. Consequently, even if all of this output could be given over to heat treatment, there would remain over 4 million pallets requiring heat treatment as supplied by TIMCON members. There is also over 4 million pallets which are also supplied to the market by Wood Packaging Material marking Members that reside outside of the TIMCON membership.

The ability to supply only heat treated quantities by TIMCON members would, as alluded to above, be restricted by the increasing demand for kiln dried pallets. The proportion of kiln dried output of TIMCON members was 23% of the total in 2013.

In spite of the pressures placed upon pallet manufacturers by the possibility of future legislation concerned with heat treated pallets, the current demands, including the growing development of kiln dried pallets, indicates that TIMCON members are responding to customer needs, often in the face of conflicting priorities.

Chart 16 below shows the volumes and percentage of output these volumes represent of the total output from all TIMCON members in 2013.



In the above chart, the 7.8 million heat treated pallets in 2013 were heat treated only and not kiln dried. Of course, by virtue of kiln drying, the 5.2 million kiln dried pallets were also heat treated.

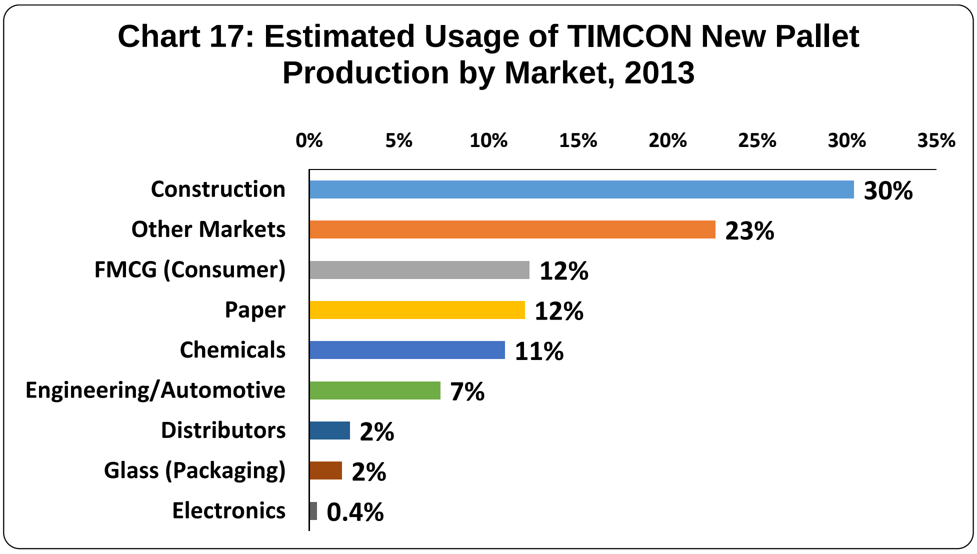
Pallet Consumption by Market

In this year's survey for the Wood Packaging Study, companies were requested to identify the destinations by market of their pallet production.

It should be noted that this first analysis to identify volumes sold to different markets is based solely on those companies responding to the survey for this study and these results have been extrapolated to cover the entire pallets industry.

As many of the respondents to the survey were larger companies, the following analysis may not accurately represent the market destination profiles of some of the smaller companies in TIMCON membership.

There is also the possibility that the definition of some market sectors may have been interpreted differently by some respondents to the survey. Despite these possible weaknesses, the following chart describes the quantities of **newly manufactured** timber pallets consumed by the main markets in 2013.



The largest single destination for new timber pallets in the UK is the construction industry. At 30% of the total, construction accounts for more than twice the number of pallets consumed by the next largest market, FMCG (Consumer), or Fast Moving Consumer Goods, at 12%. The group of other markets accounted for nearly a quarter of pallet production in 2013.

It is believed that the 12% of output supplied to FMCG markets may be understated. The problems of interpretation may apply here as it is possible that, for example, pallets used to transport goods to garden centres by nurserymen, hardware manufacturers, tool suppliers and other suppliers of other garden centre goods could be classified as being used in ‘other' markets than FMCG markets.

There should be less difficulty in defining goods that are transported over pallets to the paper industry or the engineering/automotive markets and, along with the chemicals market, these three markets make up the majority of the remaining output from pallet manufacturers.

2014

In the survey carried out for this study, TIMCON members were asked to provide a forecast 2014, in terms of the changes in turnover they considered might take place.

Companies responded before knowing their full results for the year and before publication of this report, consequently, how these forecasts will match the eventual measure of turnover of the industry will not be known for some time following the end of the year.

The request for a prediction of turnover in 2014 was intended to acquire an industry view of how the industry was likely to perform, following an upturn in general business confidence during 2013.

This ‘broad-brush' attempt to forecast the immediate year ahead resulted in a number of mixed views for 2014, with some companies predicting a strong growth in sales in 2014, others a reduction in sales turnover. This set of mixed opinions, although equally as valid as a consistent set of views depicting growth or decline, does suggest that pallet manufacturers as a group remain unsure of the immediate future and by definition, are experiencing different levels of success.

By aggregating the predictions from respondents to the survey, the average growth rate that emerged was a likely increase in turnover in 2014 of nearly 9%.

The respondents to the survey accounted for 63% of all TIMCON members' turnover and in order to arrive at a total industry estimate, the survey results were grossed to equate to industry totals.

As cautioned, the forecasts provided were 'broad-brush' in that no further detail other than company turnover was requested through the survey. Consequently, the changes predicted have been applied equally to both newly manufactured and repaired pallets. Also, the scale and direction of the changes forecast have been applied to the possible turnover of WPMMP members in 2014.

As shown in the charts earlier in this report and in table 1, the pallets industry turnover in 2013 was estimated to be nearly £279 million and applying the predicted rise in turnover for 2014, industry turnover would rise to over £302 million.

This increase in turnover would include any increase or decrease in timber prices. There have been years where timber prices have fallen, but more often, price rises have taken place.

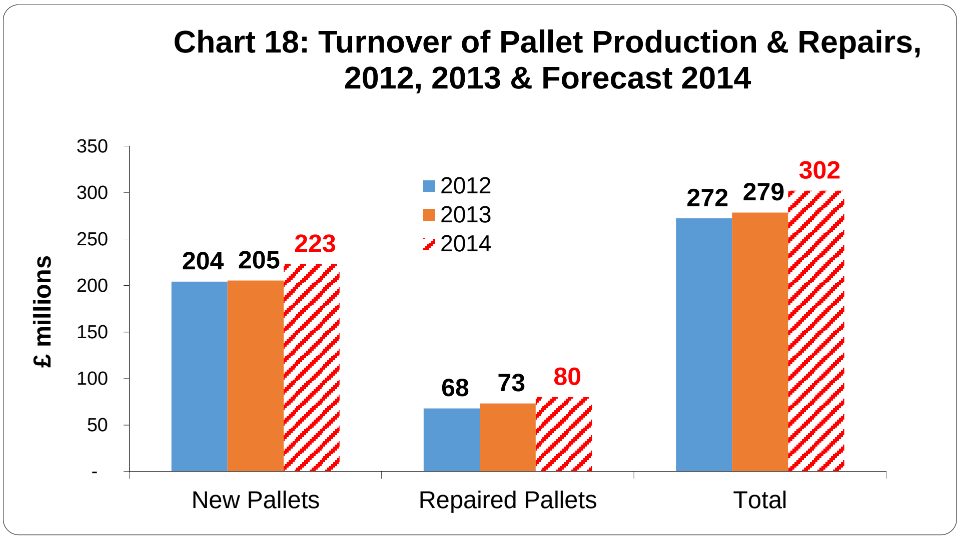
The forecast of an 8.6% increase in industry turnover in 2014, may, in part, reflect increasing pallet timber prices.

There are naturally many factors that will have conspired during the course of the year to ensure that these forecasts will turn out to be different from the eventual outturn for 2014.

Some of these external factors include the ability to pass timber price increases onto customers; the changing strength of demand within different market sectors and the general health of the economy. Internal factors for manufacturers and pallet pool operators include the ability to respond to changes in market demand; balancing productive capacity with the varying requirements that customers have for different pallet types and sizes and controlling costs of raw materials used in pallet making and repairing.

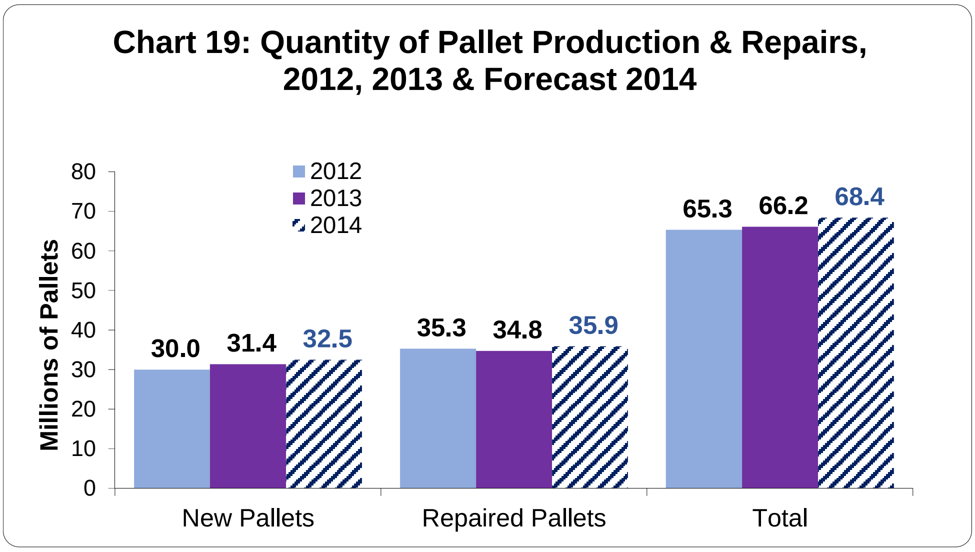
Adding the forecast turnovers for 2014 to the data previously shown in table 6 earlier in this report, the following development, in chart 18 results.

Note the totals have been rounded.

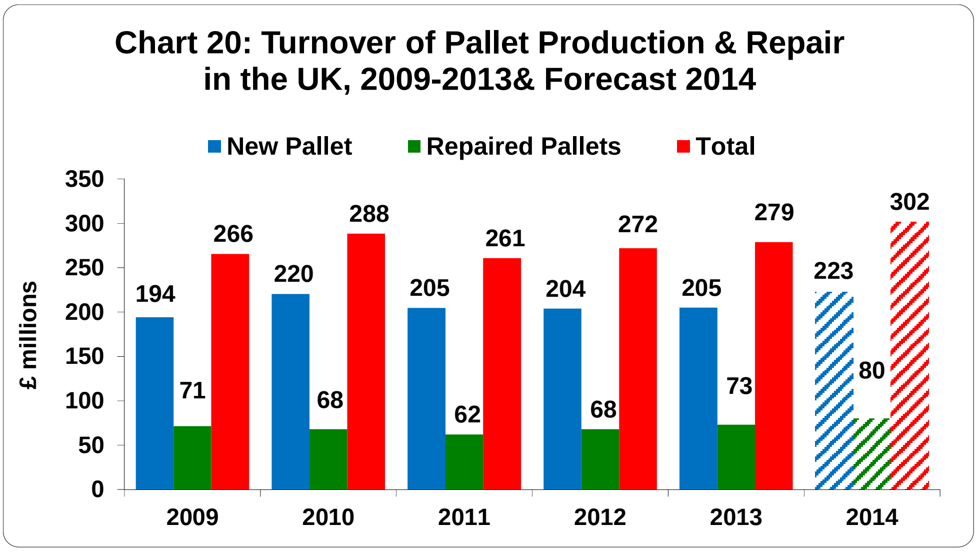


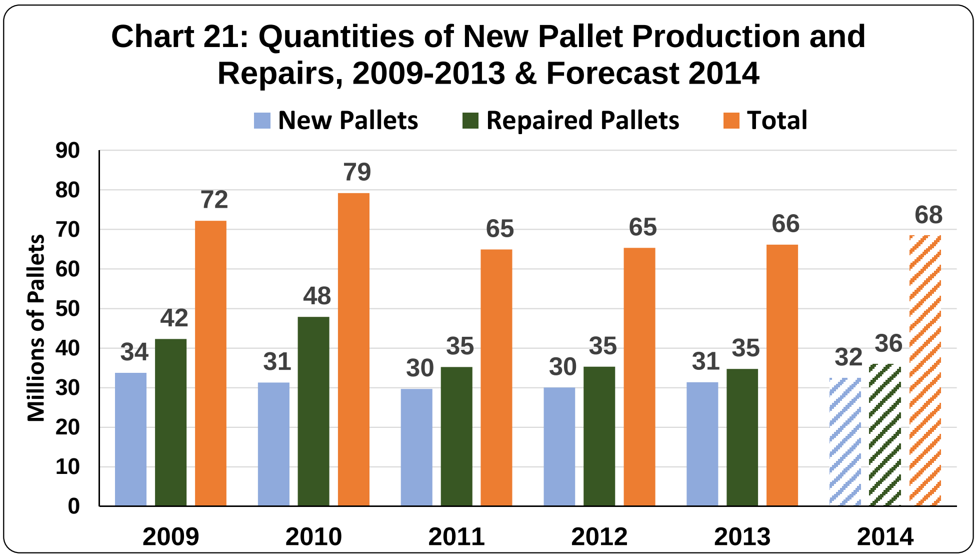
If the expectations of TIMCON members are fulfilled by this forecast, industry turnover in 2014 will have improved by £23 million to climb above the £300 million mark.

The 3.4% uplift in volume, when compared to the outturn in 2013, as shown in chart 19 below, provides for a further 2.2 million pallets to be produced, taking the combined total of new production and repaired pallets to over 68 million.



The development of pallet turnover and quantities from the beginning of this series of Wood Packaging Studies is shown in charts 20 and 21.





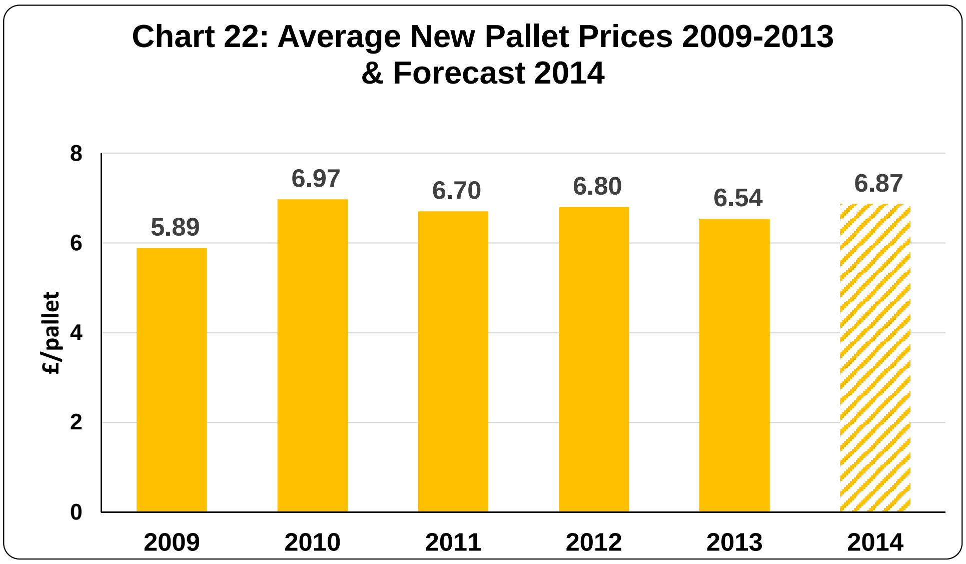
By turnover and quantities produced, 2014 is set to be the best year since 2010. Sales turnover is expected to exceed that of 2010 and would be the best year since before the most recent recession in 2007.

Quantities too are projected to be the best for four years, but will fall short of the 2010 total when the number of pallet repairs reached its record total.

The prices that pallet manufacturers receive for their product is critical to profitability and despite regularly rising timber prices, increases in the price of pallets have been difficult to achieve.

The average price per pallet derived from the Wood Packaging Studies since 2009 has revealed that no increase in real terms has been obtained by pallet manufacturers from 2010.

If the forecasts provided for this report are realised, the average price of a new pallet will rise and come close to the levels last achieved in 2010, but not exceed them.
Chart 22 shows the price development of new pallets from 2009.



Whilst a forecast rise in pallet prices is predicted for 2014, the historic comparison against timber prices indicates that the differential between the increases in each are not likely to close in 2014.

Annex I

TIMCON dialogue with ONS

Dialogue with the Office for National Statistics (ONS) has been taking place since 2011. For a number of years before that time and subsequently, TIMCON has doubted the accuracy of the measurements made of new pallet production within the ONS publication on UK production known as ProdCom. Although there is a separate ‘Repair and Maintenance’ Division within the ProdCom series (Division 33), data on pallet repairs are not separately identified and, according to pallet manufacturers, not collected.

The differences between the production totals in ProdCom and the Wood Packaging Studies have been too great (and consistently different) to be accounted for by ONS sampling error, consequently, ONS agreed to investigate these differences.

ONS re-contacted all pallet manufacturers within the ProdCom Inquiry to determine if their own estimates were correct; whether pallet repairs had been inadvertently counted within their totals and also to determine the extent of any repair work (major repairs as opposed to other repairs where a major repair was considered to be more than approximately 30% of a pallet).

In summary, the ONS investigation has resulted in a change in the way ONS will gather data for the 2015 ProdCom.

The 2015 ProdCom Inquiry will provide two separate product headings: sales of new pallets (which will remain as product code 16241133) and a new product code for the sales of refurbished pallets. Both will ask for value and volume.

ONS have confirmed that for many years the sales of refurbished pallets have been incorrectly included in the ProdCom on pallets and this split by type, to be surveyed in 2015, will now provide a meaningful quantification of new pallet production and a separate total for the number of refurbished pallets.

Whilst this is a very welcome initiative from ONS; one which it is hoped, will provide more accurate information on the development of the pallets industry, there remain a number of concerns.

Assuming the new measures within ProdCom reveal a quantification closer to that from the Wood Packaging Studies, the historical differences in the data will need to be addressed.

This is of course a matter for ONS, but should retrospective amendment to the ProdCom series be carried out, this would provide the right context for the new measures and permit a more meaningful trend relationship between the ‘old’ and the ‘new’ methods of estimation.

A further concern is the composition of the ONS sample for measuring pallet production - and now repairs. Through this series of Wood Packaging Studies, a clear view of the size of pallet repair activity has been provided along with the identification of the companies involved in this part of the market. As part of the dialogue with ONS, TIMCON members were requested to confirm whether they were, or had been, included in the ProdCom data collection sample.

Worryingly, there were a small number of larger pallet manufacturers confirming that they were not included in the ProdCom Inquiry and in order to correct this deficiency, ONS will need to review the recipients of the Inquiry. Of greater concern is the lack of data on pallet repairs within the ProdCom Inquiry which has evolved because of the restrictive scope of the Inquiry. ProdCom is dedicated to identifying manufacturing output and the new ONS initiative of trying to measure pallet repair work is, under the current structure of the ProdCom Inquiry, only likely to measure this activity conducted by pallet manufacturers. The major pallet pool operators in the UK, which account for a substantial element of pallet repair work in the UK, are not included in the ProdCom Inquiry, therefore the potential for a continuation of industry dissatisfaction with the ProdCom Inquiry exists.

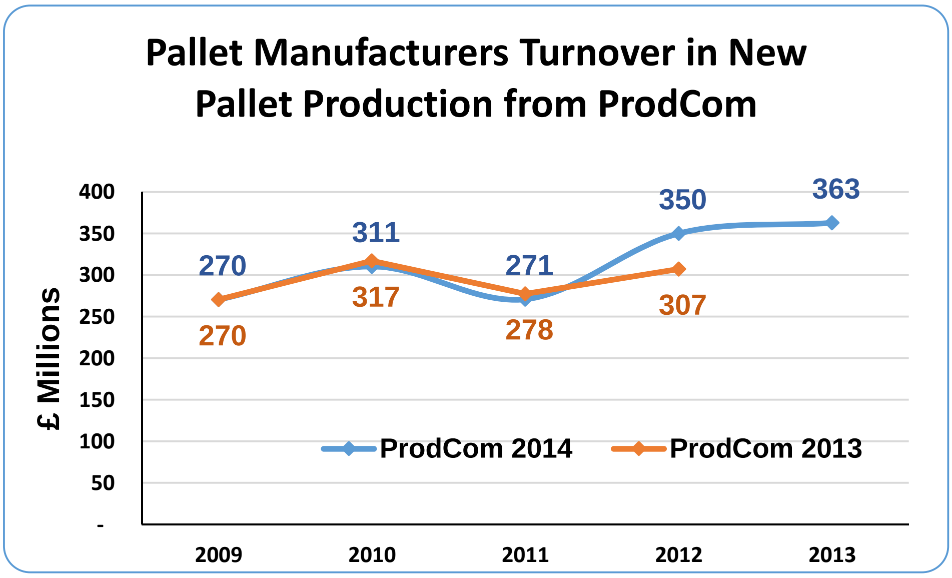
The final concern is the growing disparity with the latest two years of ProdCom data and estimates from the Wood Packaging Study.

The dialogue with ONS over the last few years had resulted in a number of revisions to ProdCom data. ONS has confirmed that the sample for the ProdCom Inquiry has changed, because of the information provided to it by TIMCON and previous estimates were revised following a more detailed review of existing data held.

While it is thought that such changes would begin to bring the estimates from the Wood Packaging Studies and ProdCom closer together, this has not generally happened.

The charts below explain.

The ProdCom revision for 2012 (and before) was significant.

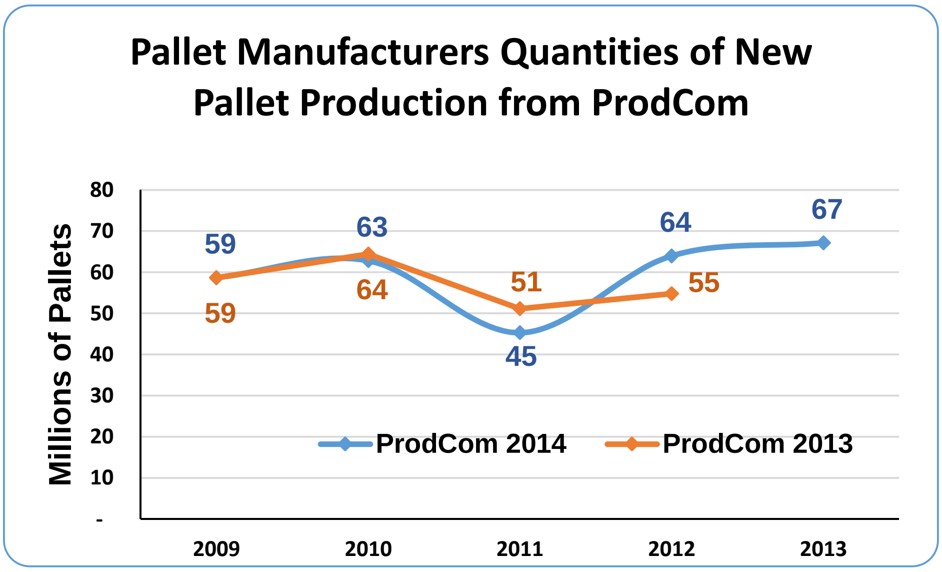


The 2013 ProdCom, published in 2013 for 2012 and previous years, estimated the turnover of new pallet production in the UK in 2012 to be £307 million.

The 2014 ProdCom, published in 2014 for 2013 and previous years, estimated the turnover of new pallet production in the UK in 2012 to be £350 million, an upward revision of 14%.

The revisions to quantities of new pallets produced, made in the 2014 ProdCom were of an even greater magnitude.

The chart below describes the two sets of data published by ProdCom.

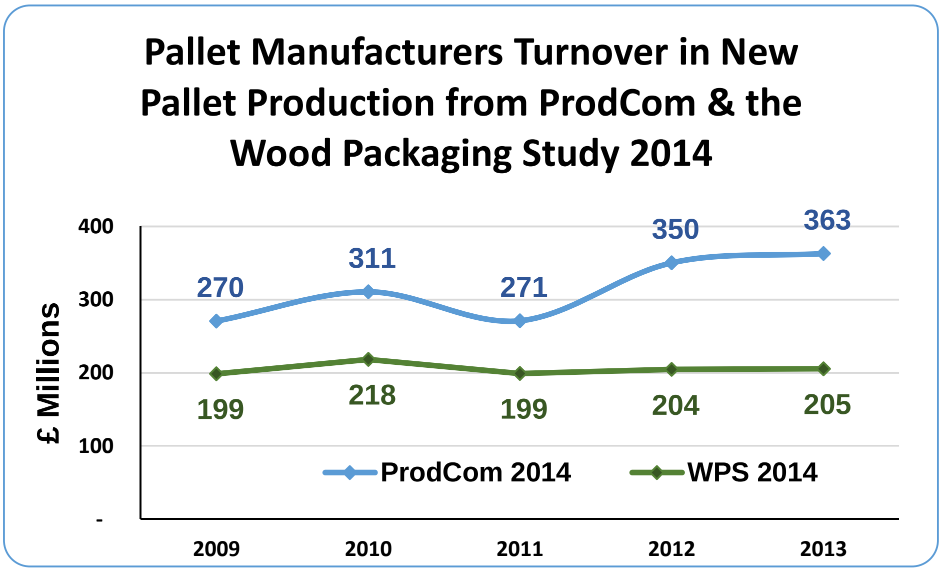


The differential for 2012 was 17%, with the revised total of 64 million pallets produced in that year, compared to the previous ProdCom of 2013 which estimated production at 55 million.

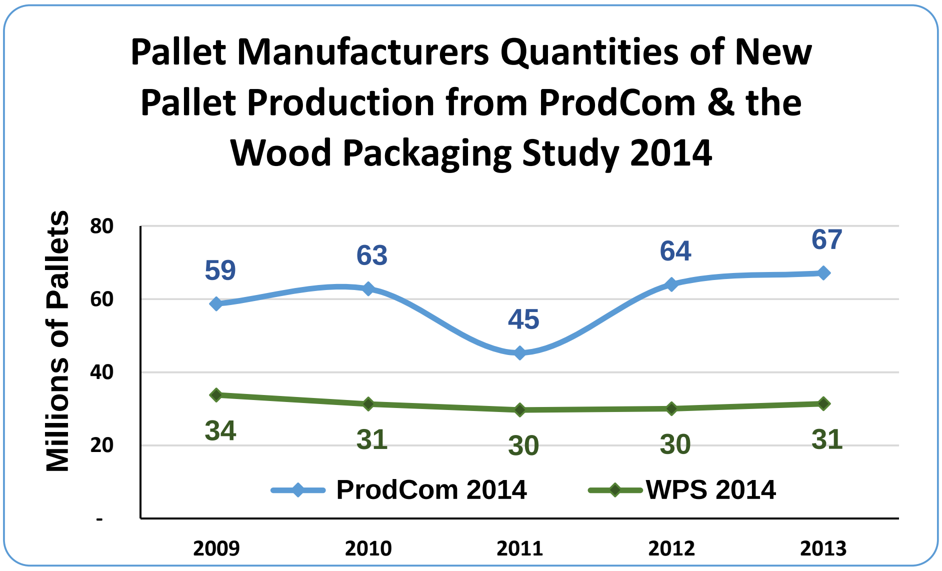
There would also appear to be an error in the data for the year 2011 which, in the latest 2014 ProdCom, estimates production at 45 million new pallets. The 'swing' between 2010 and 2012 of around 20 million pallets would appear to be in error?

Consequently, the latest developments provided from ProdCom continue to cast doubt on the accuracy of official data for new pallet production.

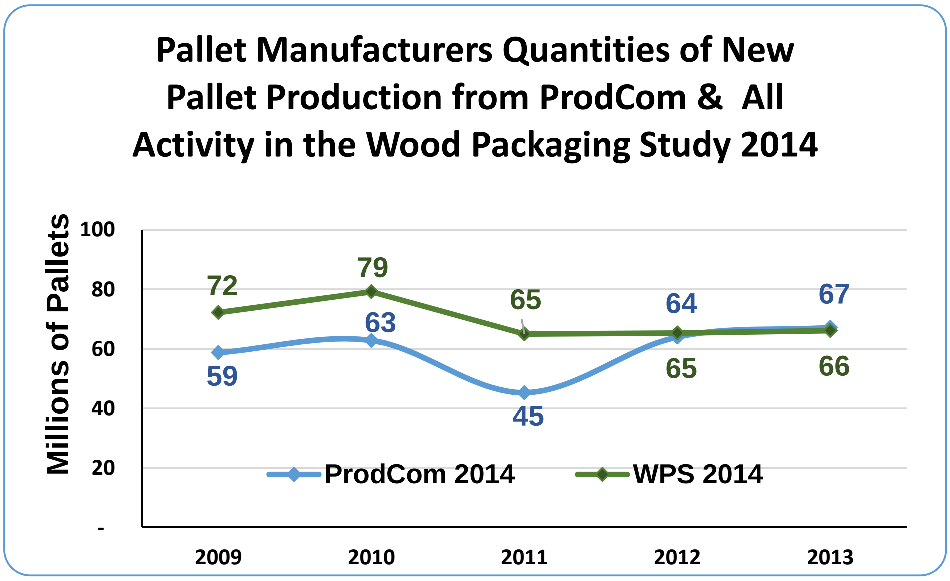
Comparing the estimates for new pallet production from the Wood Packaging Study and ProdCom, the following two charts reveal a growing discrepancy between the two data sets.



The 'gap' between the two data sets between 2009 and 2011 was in the region of 35% to 40%, with the ProdCom data being the higher figure. This difference has grown, following the latest revision from ONS. In 2012, the difference was 71% and in 2013, 77%.
The differences by quantity of new pallets produced is even greater and follows a similar path to that of turnover with an increasing difference by 2013.



Curiously, if the quantity of pallet repairs in the Wood Packaging Study is added to the Wood Packaging Study totals for new production, and this is then compared to the ProdCom quantities (for new production), the discrepancies narrow and virtually disappear over the last two years. Because of the probable inclusion of repairs in ProdCom data, clarity is required from ONS.



It would therefore appear that the ProdCom revisions are already counting repaired pallets within its totals?

Perhaps the 2015 ProdCom, utilising the new method of data gathering, might throw more light on the level of new pallet production and pallet repairs in the UK?

Annex II

Programme of Work & Methodology

The programme of work included the following processes:

1. Formulating and seeking approval for the survey questionnaires
2. Production of the questionnaires
3. Compiling the survey sample
4. Writing and seeking approval for the covering letter to accompany the survey questionnaire
5. Building the survey and analysis database to be used in the despatch and receipt of questionnaires
6. Despatch of the questionnaires to the survey samples
7. Receipt, checking and input of data to the analysis database
8. Chasing selected companies for response
9. Analysis and interpretation
10. Writing of the draft report
11. Production of the final report
12. Continuing the dialogue with ONS to investigate differences between ProdCom data and findings of the Wood Packaging Studies.

The approach to and the methodology used for this 2013 Wood Packaging Study was similar to that used for previous studies, in order to facilitate meaningful comparisons between the years.

The structure of the pallets and packaging manufacturing and repairs industry is different from many of the industries that operate in the UK economy. The market comprises many small firms, a good number of middle-sized firms, larger firms and a number of very large firms operating within the industry. The activities of these companies are not homogenous, with differing emphases on manufacturing and repairs and also different ways of getting to market. This is exemplified by the difference between manufacturers and pallet pool operators, with manufacturers mostly selling their output while pallet pool operators rent pallets for use by customers.

Consequently, the research methodology adopted for this work required a different approach from usual stratified research sampling methods used in markets where there is less differentiation between companies.

There was also the important consideration to safeguard the results of the Wood Packaging Study from revealing – through detailed analysis – the likely individual response provided by the very large companies.

Consequently, the same approach as developed previously was employed which aimed to deliver information that was representative of the market; not skewed towards the few very large companies and at the same time protecting individual company data from view.

A revised questionnaire, containing questions relating to the sales of new pallets to the major market sectors. Also, an offer to TIMCON members of providing individual company benchmark reports was also made.

The questionnaire used for this work is shown in Annex III.

The survey data was supplemented by the addition of data from the TIMCON membership database which allowed estimates of turnover (among other features) to be made for the entire TIMCON membership – but specifically, for manufacturing members of TIMCON, as opposed to supplier members.

The calculation of turnover of TIMCON members was made by taking the mid-point of each turnover band and simply aggregating the turnover of companies in each band to arrive at a notional total of turnover for the TIMCON membership.

Where companies responded to the survey, their individual actual data was then reintroduced to the analysis, with the mid-point turnover figure for these individual companies withdrawn and replaced by the actuals provided. Consequently, a highly representative turnover figure could be derived, notwithstanding that some companies would fall below the mid-point turnover mark while others would be above that mark.

This process of ‘adding-back’ individual survey results to the mid-point aggregate turnovers for each band has resulted in good estimates from which to establish the detailed analysis that followed.

Data from some of the responses received in 2014 for this 2013 study allowed a number of revisions from estimates made in earlier reports and a higher degree of precision in estimation for 2013 to take place.

Annex III - Survey Questionnaire

Forestry Commission

timcon

timber packaging and pallet confederation

A confidential survey of TIMCON members on behalf of the Forestry Commission and TIMCON.
Individual company data will not be seen by Timcon members, Executive Committee or the Forestry Commission.

Your participation in this survey will help the pallets industry as well entitling you to a tailored market report.

If a question requires a percentage a precise answer is not necessary; **you only need to give your best estimate.**

1. How many newly manufactured pallets did you produce in 2013?			pallets
2. What percentage of these newly manufactured pallets were Kiln Dried?			% KD
3. What percentage of the newly manufactured pallets (in Q1) were Heat Treated only (and not kiln dried)?			% HT
4. How many pallets did you repair in 2013?			pallets
5. Approximately what percentage of these repairs was for pallets which needed a third or more of the pallet			% of Q4 where more than a third of a pallet is repaired
6. Approximately how much wood did you use in 2013 in newly manufactured and repaired pallets?			cubic metres
7. What % of the total wood used was softwood, hardwood and manufactured wood?	Softwood		% of Q6
	Hardwood		% of Q6
	Manufactured wood (OSB/Ply/Comp blocks)		% of Q6
8. From where did you source your wood? Please estimate the % of Q6 by the countries shown.	UK		% of Q6
	Latvia		% of Q6
	Ireland		% of Q6
	Russia		% of Q6
	Other		% of Q6
9. Please estimate where you first sold your newly manufactured pallets, as a % of your output as shown in Q1.	Construction		% of Q1
	Electronics		% of Q1
	Engineering/Automotive		% of Q1
	Chemicals		% of Q1
	FMCG (Consumer)		% of Q1
	Glass (Packaging)		% of Q1
	Paper		% of Q1
	Other User Markets		% of Q1
	Distributors		% of Q1
10. Please estimate your sales turnover in newly manufactured and repaired pallets.	Newly Manufactured		£ Turnover
	Repaired		£ Turnover
11. How many employees are engaged in newly manufactured and repaired pallets?	Newly Manufactured		No: Employees
	Repaired		No: Employees
12 What % increase or decrease in Sales Turnover do you envisage for your company in 2014? Please put + or - before your estimate.			% Change

When completed, please save to file and then click on the address here, attach the form from the file just saved to return your form directly to Nick Moore at the e-mail address: palletsreport@timbertrends.org

Your Company Name: