The Market for Irish Hardwood Timbers

Leonard U. Gallagher

(Forest Products Department,
Institute for Industrial Research and Standards, Dublin.)

SUMMARY

An outline is given of the development of Irish hardwood forests and trade. The current situation concerning imports, exports, production and consumption is presented showing the impact of a low-level resource on the development of an indigenous hardwood industry. Details of British hardwood prices are given for comparison. The prospects of developing an Irish hardwood resource is considered.

INTRODUCTION

Historical developments have materially influenced Ireland's role as a hardwood producing country. Even though hardwoods, especially oak, are the natural climax species, we have virtually no managed hardwood forests. From a hardwood forest cover of some 30% in the 15th century, agricultural expansion, land policy and social unrest as well as some industrial development succeeded in reducing this to 1.0% by the end of the 19th century.

In the reforestation programme, initiated at the turn of the century, all the emphasis was laid on the planting of softwoods so that no resurgence of hardwood forestry occurred. Although, at present, some 6% of the land is afforested, only 18% of that is under hardwoods. This amounts to about 50,000 ha (or less than 1% of the country) of hardwood forest. Even at a yield class of 4, the expected cut should be in the order of 220,000m^3 — however no more than about one-tenth of that volume reaches Irish sawmills annually.

THE HARDWOOD TRADE

There has been a growing hardwood trade in Ireland over the past 400 years, initially in the utilisation and export of oak products, for building, cooperage, joinery and furniture and for the provision of bark for tanning and charcoal for smelting. With the opening up of foreign trade a steady growth in the import of hardwoods and hardwood products, has occurred, particularly those of tropical origin.

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By the early 18th century the greater part of the Irish woods had been cut and exports rapidly dwindled, to be replaced by imports, which in 1735 amounted to some £24,180, most of it softwood but including walnut and some tropical timbers (McCracken 1964). The trend of dependence on imports with a modium of exports persists to this day, in the hardwood industry.

Table 1: Value of import and export trade in hardwoods and hardwood manufacturers, 1983 and 1985.

Category	Imports, £000		Exports, £000	
	1983	1985	1983	1985
rough and sawn timber	17936	20556	3181	4588
veneers and plywood	11339	9316	569	719
manufactured goods, (excluding furniture)	9816	10656	4123	3821
hardwood furniture	16479	22921	13997	15942
Totals	55570	63449	21870	25070

(CSO 1984 and 1986)

Import/Export

Table 1 summarises recent trade figures for import and export of hardwood timber and manufactures (CSO 1986). Imports exceeded exports due to a low level of home production of timber and at least 20% of the £20 million import of raw material could be supplied from Irish timber, were it available. The position of the furniture trade is interesting. It shows an export figure almost three-quarters of the import value. Considering that most of this is based on imported hardwoods, there could be a substantial improvement of balance of payments if we were in a position to provide our own raw material. It may not be easy to redress the disparity between import and export values of veneers and playwood so readily, because of the high cost of establishing such industries here.

An interesting comparison can be made between like timbers. Table 2 shows the import/export quantities and values of unprocessed tropical and temperate hardwoods for 1986 (CSO 1987). The bulk of imports were tropical hardwoods, which generally were cheaper than the temperate hardwood equivalents.

Table 2: Import/export of unfinished hardwood timber, 1986.

Category	Imports			Exports		
	MT	£000	£/MT	MT	£000	£/MT
round or roughly squared						
tropical	113	36	319	0	0	0
temperature	703	145	206	3763	447	119
sawn but not planed						
tropical	48017	15184	316	3974	1882	474
temperature	8575	3593	419	10030	1646	164
Totals tropical	48130	15220		3974	1882	
temperature	9278	3738		13793	2093	
Grand Total	57408	18958		17767	3975	

(CSO 1987)

Tropical hardwoods to the value of £1.882 million, were re-exported, apparently at a handsome margin when the price per m^3 is compared with that of imports. The exported temperate hardwoods valued at £2.093 million, was largely oak, almost £0.5 million being in the round for veneering abroad. The value per m^3 of the various categories is worth noting. The lower price per m^3 for exported temperate hardwoods compared to their imported counterparts reflects a lower quality timber and the poorly developed market in homegrown hardwoods.

Hardwood Industries

The production of raw material in Ireland depends on harvesting a sparse population of hardwood trees of mixed quality which, because of their small numbers and the low volume available in any one area, can only be planked in small sawmills before being processed further. The search for hardwood trees of quality can be extensive and therefore costly, which reflects, in turn, on the price offered for the timber. There are at least 22 sawmills converting hardwoods. Five are concerned solely (or mainly) with hardwoods, but their consumption of sawlog is about 15,000m^3, or over two-thirds of the estimated consumption. Because of the fragmented nature of the hardwood sawmilling industry, firm statistics are

Table 3: Structure of Irish hardwood sawmilling industry.

Mill Size	No.	Hardwood log volume (m^3/p.m.	Headrig type			
			Vertical bandmill	Horizontal bandmill	Band rack	Circular rack
1000-5000m^3*	9	17500	2	2	5	0
<1000m^3*	13	4500	3	3	4	5

(FWS, 1986 and McCabe 1987).

*Note: Mill size refers to total production of sawn timber (assuming 50% conversation) whether hardwood, and softwood combined. There are no mills with a production capacity exceeding 5000m^3 p.a. which are involved with hardwood production.

difficult to obtain. Table 3 gives an indication of the structure of this sector of sawmilling. Seen in the context of an industry 157 mills strong, consuming a total of 762,000m^3 of timber (hardwood and softwood) per annum, the relatively small scale of native hardwood conversion can be appreciated. Hardwoods generally require larger headrigs than do softwoods for their conversion, an expense hard to justify in present circumstances.

A quick appraisal of the type of headrig employed also indicates that fewer than half of them have equipment suitable for the conversion of hardwoods. No more than two of the mills are known to have kiln drying facilities. Current prices for hardwood timber on the Irish market are summarised in Table 4 (O'Brien 1987). Due to the small scale of the industry, difficulty of procuring timber of quality and lack of assured supply, the basic log price is low.

Table 4: Some hardwood prices in Ireland.

	Item	£/m^3
Roundwood	fuelwood	10
	sawlog	27-50
	oak veneer	270
Sawnwood	quality beech	420
	American white oak	700+

(O'Brien 1987).

Even the value of the sawn product is low compared to some other imported temperate hardwood timbers. From these figures, the value of sawlogs purchased by Irish sawmills would amount to about £850,000 while the value of sawn produce should be in the order of £3 million to £3.5 million. It is interesting to note that over half of Irish sawn hardwoods appear to be exported, the remainder finding its way into the home industries.

Downstream industries

There was a time when Irish hardwoods were the backbone of the furniture industry, but not any more. Reference to Table 1 shows that there is a reasonable trade in furniture, but the greater proportion of it is manufactured from imported hardwoods, frequently of tropical origin. At present very little Irish timber is used in furniture. The bulk of prospective furniture material is exported — either as veneer log or sawn. Craft and sport industries are also high in added value; ash for hurleys is the timber most in demand in this sector. The craft requirements however, are small and varied. The next group of industries is lower in added value and consists of joinery, coffins, turnery and tool handles, and boat building. Of these, coffins and boat building probably absorb most of the Irish hardwoods. The tool handle, turnery and joinery industries use little Irish timber, mainly because of lack of supply. There are occasional upsurges of such products as brush backs and shoe heels made from Irish timber, but probably most finds its way into pallets and boxes, and of course, fuelwood — the latter not infrequently consumes quite superior trees which, but for lack of an organised market, would be sold more advantageously as furniture stock.

Future Prospects

From the above, it is evident that the native hardwood trade is not strong. The situation must deteriorate further unless action is taken, because without a strong base there will be no investment in hardwood production, and the existing reserves will be depleted, as is only too evident in the current exploitation of some of the last remaining oak woods. The prime question is can we afford to invest in hardwood production, will there be a return on any investment made? Without positive assurances that it is worth growing hardwoods there can be no will to do so, and the native hardwood trade will decline further. An examination of prospects both abroad and at home should help put this problem in perspective.

World Hardwood Trade

It is predicted from several sources that there will be a continuing growth in world demand for timber. An increase in hardwood log demand is foreseen whereby an extra 100 million m^3 of hardwood logs, and an extra 182 million m^3 of hardwood pulpwood will be required, worldwide, by the year 2000. This analysis concludes that a yearly overall growth in industrial wood consumption of 1.8% can be expected over the next 13 years at least (FAO 1983). This pattern applies to European hardwood consumption at virtually the same level (*vide* Table 5) and a continuing importation of hardwoods into Europe is envisaged.

Table 5: Future World timber demand.

Item	Millions m^3		Yearly Growth
	1980	2000	%
Total	1233	1818	1.8
Hardwood sawnwood	200	291	1.7
Hardwood in W. Europe	74.5	101	1.7
Hardwood sawlog imports (Europe)	3.8	5.2	1.7

(FAO 1982).

Even in the current recession, there is an increased demand for timber, sawn hardwood imports having increased from 33,263 metric tonnes (MT) in 1975 to 48,965 MT in 1980 and to 56,628 MT in 1985, an increase of 70% in 10 years. Admittedly, signs of a downturn were evident in 1982 and '83, but in the succeeding two years there was notable recovery. Thus, even in the home market, there is evidence of strength of demand for solid hardwood timbers (CSO 1974-'86).

An important aspect of future development is an expected hardening of prices. The net effect of the anticipated increase in consumption will be to put considerable strain on existing forests to meet the demand. Already 11 million hectares of forested land are being denuded annually in the tropics, mainly due to population pressures, but also due to exploitation. Replanting throughout the tropics just exceeds 700,000 ha (Wardle 1982). Valuable timber species are becoming scarce due to lack of management of forest

resources and Sutton (1981) predicts that the exploitation of quality hardwood trees in such that "except in fast growing, intensively managed forests these quality trees are essentially a non-renewable resource".

Costs in future will undoubtedly increase because supply will be drawn from more remote locations, different, and more difficult species to process will be harvested and marketed. Replacement costs will increase as efforts are made to redress the imbalance (assuming that it will be redressed!) A further impact on import costs is the tendency among exporting tropical countries to limit or prohibit the exportation of unprocessed timber, thereby generating their own added value industries and increasing their revenue.

Development of an Irish resource

The foregoing indicates that there are compelling reasons to examine the feasibility of producing our own hardwood timbers. A scenario of production and consumption is presented in Table 6

Table 6: Actual and projected hardwood sawlog production and consumption in Ireland.

Item	Base Period (1979-83)	1990	2000	2010
Production				
Growing stock (millions m^3 over bark	7	8.5	9.2	9.8
Net annual increment ('000m^3 over bark)	80	100	200	200
m^3 over bark/ha	1.1	1.3	2.4	2.2
Removals ('000m^3 over bark)	50	60	70	80
Consumption Sawn Hardwood ('000m^3)				Av. annual change 1980-2000
low forecast	80	90	120	+2.0%
high forecast		100	180	+4.1%

(FAO 1936).

(FAO 1986). From this it is obvious that, from a small base there can be little improvement in the rate of felling in the near future and the annual increased productivity of roundwood is rated at 1.6%, whereas sawn hardwood consumption increase is rated at between 2 and 4.1%, depending on economic growth forecasts. Assuming 50% conversion, no more than 35,000m^3 of sawn hardwood will be produced in 2000, leaving a shortfall of requirement between 85,000 and 145,000m^3, equivalent to 51,000 to 87,000 MT (approx.).

Both here and in Britain there is a growing concern that hardwood production is being neglected. Financial models have been constructed and, based on the traditional net discounted revenue (NDR) approach, these are frequently discouraging. However, there are two proposals which sound promising: that is the production of hurley ash in Ireland (Fitzsimons & Luddy 1986) and furniture-grade sycamore in Britain (Stern 1982).

At log prices of £90 to £350, depending on quality and end-use, returns in excess of 4% per annum are possible. Other hardwoods

Table 7: 1987 prices for timber in Britain.

Species	£ Stg./m^3		
	Roundwood	Saw & dried	
	butt logs	25mm stock	75mm stock
British grown			
sycamore	69-96	232	-
ash	83- 96	334	551
oak	110-138	559	830
rippled sycamore	138-413	409	-
select oak	-	754	-
Imported			
prime joinery beech	-	348	431
sycamore	-	362	541
N. American ash	-	488	712
American cherry	-	548	756
prime European oak	-	698	1038
rippled sycamore	-	913	958
European walnut	-	1377	2317

(Boddy 1987 and Gormley 1987).

which may yield viable financial returns are cherry, oak and walnut; the latter two because of the particularly attractive prices they command. The approach to hardwood plantations is very different to that of softwoods, and seems to lend itself to development by dedicated private tree farmers who seek an investment for their family's future. In that situation, the returns on a hardwood plantation at maturity would be substantial, assuming much of the establishment and maintenance costs could be written off in such a family venture. Various developments from improved tree selection, vegetative propagation, the use of tree shelters and "free growth" forestry, all point the way to increasing the growth

Table 8: Values of different grades of British home grown hardwoods.

Item	Relative value	% Total volume	% Total value	1st Quality butts £Stg/m^3
Oak				
Veneer butts	10			
		20	53	
1st quality butts	6			
beam quality	2.5	30	20	
fencing	2	35	23	138
pallet	1	15	4	
Ash				
veneer butts	5.3	5	10	
1st quality white	4			
		55	74	96
1st quality coloured	3.3			
2nd quality	1.3	15	7	
pallet	1	25	9	
Beech				
1st quality white	2.5			
		50	66	85*
1st quality coloured	2			
2nd quality	1.3	30	23	
pallet	1	20	11	

*estimate

(Venables 1985)

potential of hardwood thus shortening the rotation and bringing hardwood forestry into the realm of profitability, at least at low rates of interest.

The British market

Having noted the reasons for lower prices in Ireland, a brief review of British price structures shows that, with a more organised market, better prices are obtainable. Table 7 lists some current prices for through-and-through sawn timbers. All these timbers are capable of being grown in Ireland. Typical roundwood prices for first quality butts of British grown timbers are included (Bobby 1987, Gormley 1987). Comparative values of different grades of timber as shown in Table 8 give a clear indication of the importance of establishing and maintaining a good crop of the highest quality (Venables 1985). These data are included to illustrate that, with a developed market, firmer and more structured prices for hardwood timbers should be available in Ireland.

CONCLUSIONS

The current structure of hardwood forestry and downstream industry in Ireland is weak and, if left to its own devices, cannot survive. Even in Britain self-sufficiency is expected to decline from a level of 50% in 1970 to 21% by 2000 (FAO 1982). As noted, Europe will continue in deficit and tropical countries will not be able to meet the demand. Therefore, even though prices have been stable since the early 80s, notable increases must be expected as increasing demand is met by reduced and more costly supply.

There is growing evidence that hardwood forestry can be economically viable. With more productive land becoming available due to curtailment of agricultural production, there is now greater potential for the establishment of viable hardwood forests. The development of such forests is desirable for other reasons — improved environment and diversified forestry being two important considerations, both of which help to ensure more willing acceptance of forestry as a land use. The creation of hardwood forests would not only protect the residual hardwood industries, but allow for the development of new ones which would further reduce our dependence on hardwood imports. In the national sense over emphasis on the NDR criterion would be detrimental to the development of a hardwood industry. Faced with outside developments and the less quantifiable benefits of diversified forestry I am not at all sure that the NDR criterion will truly reflect the real value of developing an indigenous hardwood resource. What is certain is that there is a growing opinion that hardwood

forestry is a worthwhile venture — and we should approach it positively.

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Due to the lack of space in this issue
'The Other Ingredient' has been omitted.