

APPENDIX A. SURVEY INSTRUMENTS

Survey of Chinese Furniture Manufacturers
September 1997

This survey is intended to collect information from furniture manufactures to help a better understanding of material usage in wood furniture industry. Thank you for your collaboration!

1. Does your company make wood furniture? (Please return this survey if your company does not produce wood furniture. Thanks).

____ Yes ____ No

2. At what prices most of your furniture sell at retail? Use 7-point scale to answer this question.

Low		Medium		High
V		V		V
1	2	3	4	5
			6	7

3. What percent of your furniture production (by value) would you classify as:

<u>Types</u>	<u>%</u>
Wood office furniture	_____
Wood household furniture	_____
Cabinets	_____
Commercial use furniture	_____
Upholstered furniture	_____
Other (please specify)_____	_____
	_____ %
Total	100%

4. What percent of your wood furniture production (by value) was in the following product categories?

<u>Types</u>	<u>%</u>
Bedroom	_____
Dining room(including kitchen tables & chairs)	_____
Living room	_____
Cabinets	_____
Office	_____
Wall units/shelves	_____
Infant/children	_____
Computer furniture	_____
Other (specify)_____	_____
Total	100%

5. Does your company export? If so, what percent of your export (by value) was in the following categories?

Furniture	_____%
Parts	_____%
Others (specify)_____	_____%
Total	100%

6. Approximately, what percent (by value) of your company's raw materials were imported?

1991	_____%
1992	_____%
1993	_____%
1994	_____%
1995	_____%
1996	_____%

7. Which of the following factors affect your importing decision? Use the following seven-point scale in answering this question: 7 = extremely important 4 = important 1 = not at all important

Price	1	2	3	4	5	6	7
Material availability	1	2	3	4	5	6	7
Species availability	1	2	3	4	5	6	7
Quality	1	2	3	4	5	6	7
Delivery terms	1	2	3	4	5	6	7
Others_____	1	2	3	4	5	6	7
(specify)							

Comments (other important factors): _____

In the following section we would like to find out more about your company's wood raw material uses and needs, particularly for hardwoods. If your company purchased any amount of hardwood lumber, dimension products, or furniture parts for the production of furniture in 1996, please complete this section. If your company did not purchase any hardwood lumber, dimension or furniture parts in 1996, please skip question #9 to #13.

LUMBER refers to sawnwood either rough or planed, green or kiln dry, of unspecified lengths.

DIMENSION refers to sawnwood, which has been surfaced to specific thickness and in widths and lengths of customer specification. It can also include semi-machined parts, or pieces glued into panels.

8. Please do your best to estimate the quantity of following materials used to manufacture furniture in 1996 and 1999 (forecast).

<u>Material</u>	<u>Units</u>	<u>Do not Use</u>	<u>1996</u>	<u>1999</u>
Hardwood lumber	M3	___	_____	_____
hardwood dimension	M3	___	_____	_____
Softwood lumber	M3	___	_____	_____
Softwood dimension	M3	___	_____	_____
Hardwood veneer	M3	___	_____	_____
hardwood plywood	M3	___	_____	_____
Softwood veneer	M3	___	_____	_____
Softwood plywood	M3	___	_____	_____
MDF	M3	___	_____	_____
Particleboard	M3	___	_____	_____
Hardboard	M3	___	_____	_____
OSB	M3	___	_____	_____

9. Please estimate a percentage breakdown of the volume of hardwood lumber/dimension purchased by your company in 1996 and projected/expected for 1999.

<u>1996</u>	<u>1999</u>	
___%	___%	Temperate hardwood lumber/dimension grown in China
___%	___%	Temperate hardwood lumber/dimension grown in the United States
___%	___%	Temperate hardwood lumber/dimension grown outside China, Non-USA.
___%	___%	Tropical hardwood lumber/dimension grown in China
___%	___%	Tropical hardwood lumber grown outside China
100%	100%	Total

10. Please provide an approximate breakdown (by volume) of the type of **HARDWOOD LUMBER/DIMENSION** your company purchased in 1996 by writing percentages in the appropriate blanks below.

___% green lumber
 ___% Kiln dried (rough or surfaced) lumber
 100% Total

11. Please provide an approximate breakdown of the volume of **HARDWOOD LUMBER/DIMENSION** your company purchased in 1996 by writing percentages in the appropriate blanks below.

_____ % Chinese oak	_____ % Other Paulownia
_____ % Chinese birch	_____ % Rubberwood
_____ % Chinese ash	_____ % Ramin
_____ % Other Chinese (specify) _____	_____ % Teak
_____ % USA white oak	_____ % Rosewood
_____ % USA red oak	_____ % Mahogany
_____ % USA red alder	_____ % Other imported (specify)
_____ % USA yellow poplar	_____
_____ % USA ash	_____ % Other imported (specify)
_____ % USA paulownia	_____
_____ % Other USA (specify) _____	

100% = Total

12. From what sources does your company obtain its HARDWOOD LUMBER/DIMENSION?

Direct from sawmills	_____%
From domestic wholesaler/distributor	_____%
From domestic retailer	_____%
Directly imported	_____%
Imported through trading company	_____%
Other sources (specify)_____	_____%
Total	100%

The following section asks about your perceptions regarding your company's HARDWOOD LUMBER/DIMENSION purchases. If your company did not purchase any hardwood products in 1996 please go to question #14.

13. Below is a list of 10 important PRODUCT ATTRIBUTES to HARDWOOD LUMBER/DIMENSION buyers. Please rank these from 1 to 10 in order of importance to your company. Please write the ranking in the blank beside each attribute with 1 being the most important to 10 being the least important.

<u>Rank</u>	<u>Product Attribute</u>
_____	Color
_____	Uniformity of color
_____	Ease of machining
_____	Ease of staining
_____	Straightness
_____	Moisture content
_____	Price
_____	Slow growth/tight grain
_____	Grain direction
_____	From sustainably managed forests

22. Have you sought information about imported wood raw materials?
 _____ No, I am not interested at this time.
 _____ No, but I am interested in information about these products:
 a. _____
 b. _____
 c. _____
 _____ Yes, I have sought information from these sources: _____,
 _____, _____, _____, _____
 about the following products: _____, _____,
 _____, _____
23. Have you heard about the American Hardwood Export Council?
 _____ Yes _____ No

 Thanks again for your help.

APPENDIX B. INTERVIEW GUIDE

Hardwood Use in Chinese Furniture Industry

Guide for Interview Questions

Background Information

1. Date of interview: _____
2. Name of company: _____
3. Address: _____
4. Name and title of interviewee: _____
5. Type of ownership:
___ State-run company
___ Collective company
___ Private company
6. Are you a joint venture company? Yes/No
If so, which country? _____
7. Do you have domestic galleries? Yes/No
Do you have overseas galleries ? Yes/No
8. What kind of furniture is your company manufacturing?
9. How many year has your company been in business? _____

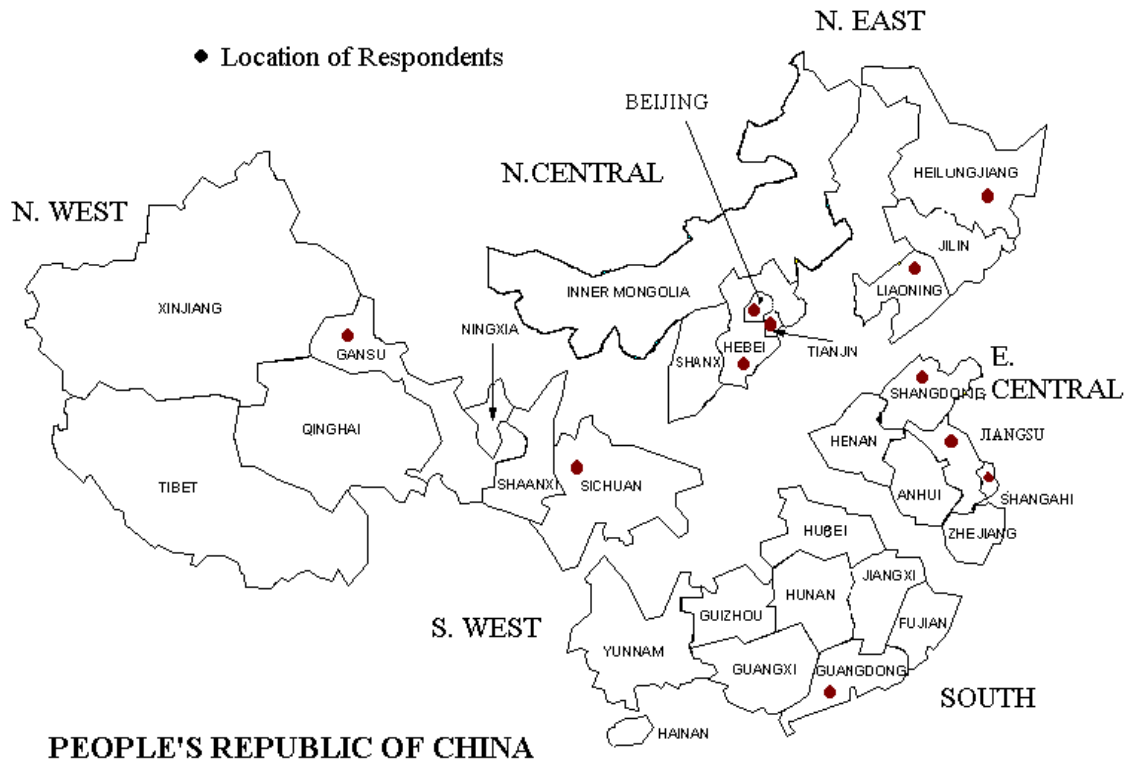
Market condition & uncertainties

10. Where is the major market for your furniture? Current vs. future (3-5 years)?
Overseas or domestic?
Household or contractors?
Did you see any growth of that market segment?
11. Did you see any changes of market demand for wood furniture?
Customers
Wood material suppliers
Labor
Equipment
Competitors
12. How did these changes affect your company?
Products
Profit
Marketing measures
13. What is your perception of future market for wood furniture?

Wood material uses

14. Which kinds of wood material are you using to manufacture your products?

APPENDIX C. MAP OF CHINA SHOWING SURVEYED FIRMS



APPENDIX D. WOOD MATERIAL USAGE

Table A1. Estimated Wood Materials Used by Responding Firms: 1996

	Hardwood Lumber	Hardwood Dimension	Softwood Lumber	Softwood Dimension	Hardwood Veneer	Hardwood Plywood	Softwood Veneer	Softwood Plywood	MDF	Particleboard	OSB	Total
By Firm Size												
Large	12,200	23,100	1,000	-	740	270	-	-	13,200	10,000	-	60,510
Small -Medium	18,863	12,032	2,850	500	784	7,629	335	1,862	10,292	22,539	300	77,985
By Manufacturer Type												
Household Furniture	16,923	22,405	1,800	200	893	1,332	220	1,810	19,132	18,278	-	82,993
Office Furniture	9,350	4,587	1,020	50	451	2,197	80	-	1,490	11,491	-	30,716
Other Furniture	4,790	8,140	1,030	250	180	4,370	35	52	2,870	2,770	300	24,787
By Region												
North	22,950	16,400	3,370	500	731	700	115	52	16,230	12,811	300	74,159
South	8,113	18,732	480	-	793	7,199	220	1,810	7,262	19,728	-	64,337
Total	31,063	35,132	3,850	500	1,524	7,899	335	1,862	23,492	32,539	300	138,495

Table A2. Estimated Wood Materials Used by Responding Firms: 1999

	Hardwood Lumber	Hardwood Dimension	Softwood Lumber	Softwood Dimension	Hardwood Veneer	Hardwood Plywood	Softwood Veneer	Softwood Plywood	MDF	Particleboard	OSB	Total
By Firm Size												
Large	15,000	26,800	1,100	-	800	400	-	-	15,900	16,150	1,000	77,150
Small -Medium	24,407	16,550	3,540	900	1,089	11,350	440	2,369	11,877	42,394	310	115,227
By Manufacturer Type												
Household Furniture	20,607	24,200	1,800	200	839	1,690	240	2,309	21,762	27,528	1,000	102,175
Office Furniture	12,800	7,200	1,390	100	701	3,220	160	-	2,805	12,166	10	40,552
Other Furniture	6,000	11,950	1,450	600	350	6,840	40	60	3,210	2,600	300	33,400
By Region												
North	30,600	21,900	4,140	900	1,221	1,060	200	60	19,675	19,266	1,300	100,322
South	8,807	21,450	500	-	669	10,690	240	2,309	8,102	23,028	10	75,805
Total	39,407	43,350	4,640	900	1,889	11,750	440	2,369	27,777	42,294	1,310	176,127

VITA

Xiufang Sun was born in Tianjin, P. R. China, on November 22, 1964. She earned her BS degree in 1984, and MS degree in 1988. Both degrees were majored in Management Engineering and from Jilin University of Technology in Jilin province, P. R. china. After finished her Master's degree, she worked as a lecturer at Shenyang University of Technology`. In 1995, she came to the United States and became a Master's student in Department of Wood Science and Forest Products at Virginia Tech thereafter. Xiufang Sun will get her second MS degree in Fall 1998.