

## Chapter 4

### Contractor and Business Profiles

The selection process (Chapter 3) designated twenty-four businesses running a total of thirty-one crews for analysis. Information presented is accurate for fall 1995, when interviews were completed.

#### 4.1 Contractor Demographics

All businesses were owned and operated by white males. Twenty-one firms were owned by one owner, two had two owners and one had three owners. In cases where there is more than one owner for the business, the attributes of the senior partner are used to represent that business in the analysis. Owner ages ranged from 29 to 65 years. The mean and median age were 45, while the mode was 50. Figure 4.1 shows the distribution of ages was bimodal with an older group and a younger one.

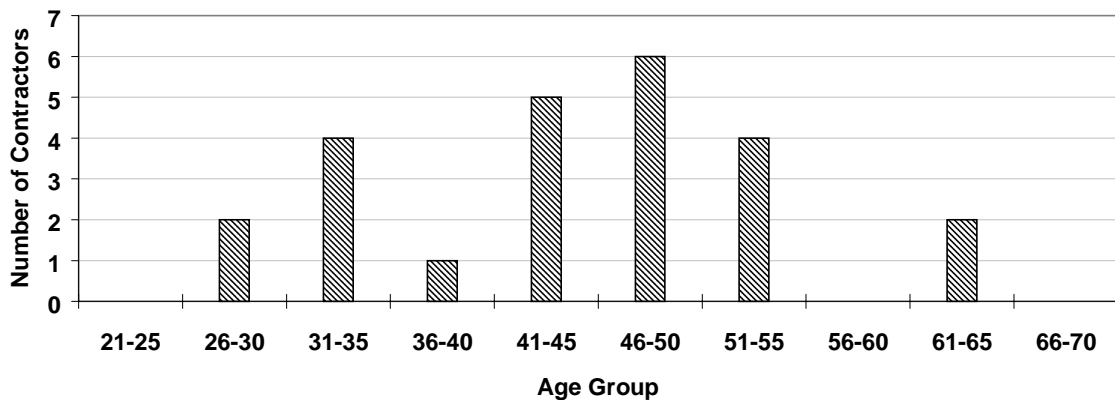


Figure 4.1 Histogram of contractor ages.

The age distribution shows a second wave of young contractors. The six youngest contractors came into the logging business by different ways. Three had started their own business after previously working in sawmilling, utility line maintenance, the scrap metal business, and farming. Another started working for a logger after he finished college and eventually took over the business. Two of the contractors grew up in a family operated

logging businesses and fully took over ownership and management of the business upon the death of their fathers.

Figure 4.2 illustrates the relationship between contractor age and education level.

Completion of tenth grade was the minimum level of education. Twenty-two completed high school and eleven went on to college with four completing two-year degrees and five completing four-year degrees. Contractors forty years of age and younger are the best educated, with all completing high school and more than half attending college. Young successful contractors lacking a high school diploma appear to be rare. It is quite likely that the two contractors not completing high school left early due to various social or economic reasons and not due to lack of academic ability. One of these contractors was son of a logger and left school after completing eleventh grade to start working full time. He commented that he could draw upon his better educated family members. *“My wife and son have the brains, I have the experience.”*

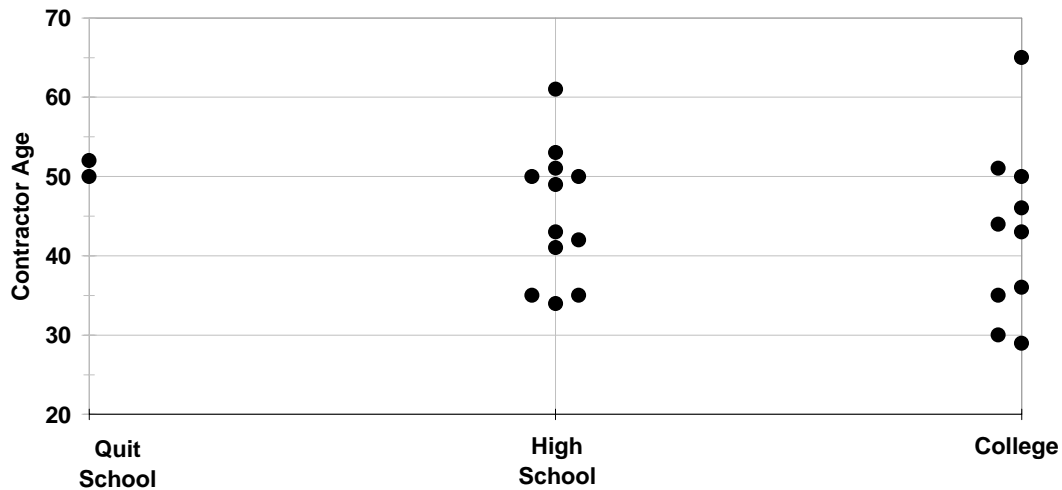


Figure 4.2 Contractor age versus level of education.

## 4.2 Business Size and Production

The most readily apparent difference between the businesses was their size. Figure 4.3 illustrates the variation in annual production levels between and within contractors by year. The mean annual production provides a reference point to a contractor's business size relative to the other contractors, and is therefore used in several figures in this chapter. About one-quarter of the sample is producing more than 100,000 tons annually. About a third of the sample is producing below 50,000 tons per year. The remaining 40% of businesses produce in 50,000 to 100,000 tons per year range.

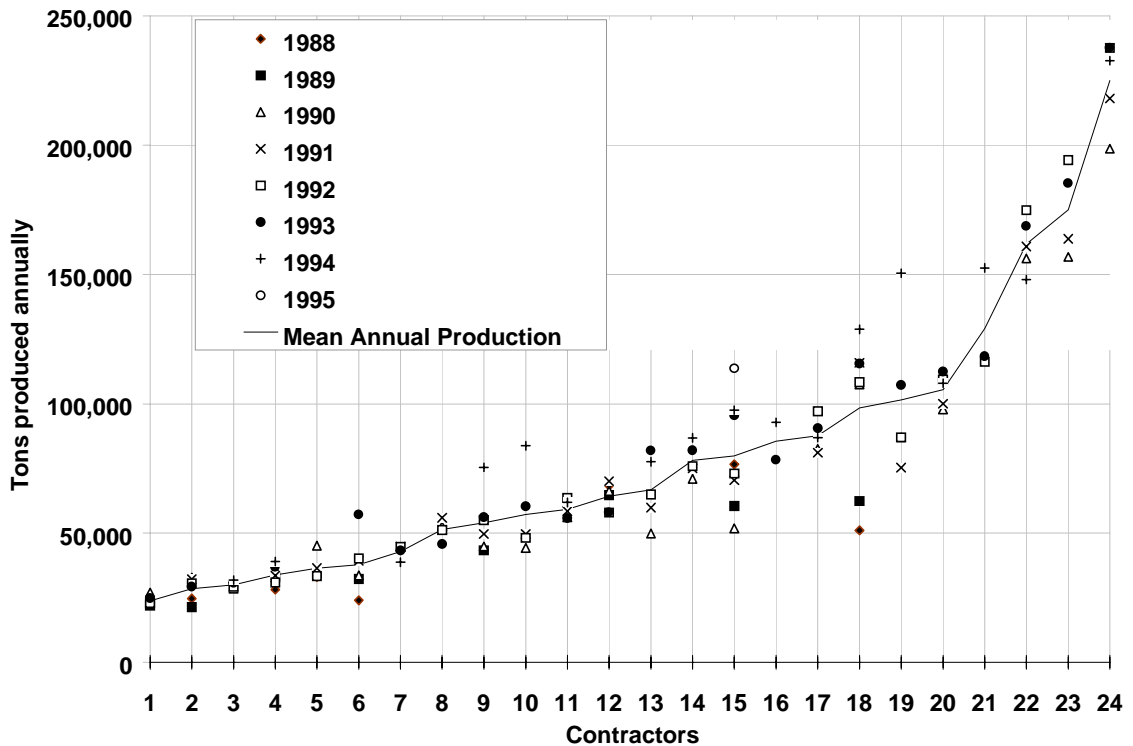


Figure 4.3 Annual production by contractors ranked by mean annual production.

Figure 4.4 breaks down business size and crew structure by physiographic region. Logging businesses were smallest in the mountain region at a mean annual production of 35,000 tons. Coastal plain operations (mean 97,000 tons per year) tended to be larger than piedmont operations (mean 81,000 tons per year), however the largest business operated in the piedmont. The range of business sizes was largest in the piedmont at about 195,000 tons per year difference between the largest and smallest firms mean annual production.

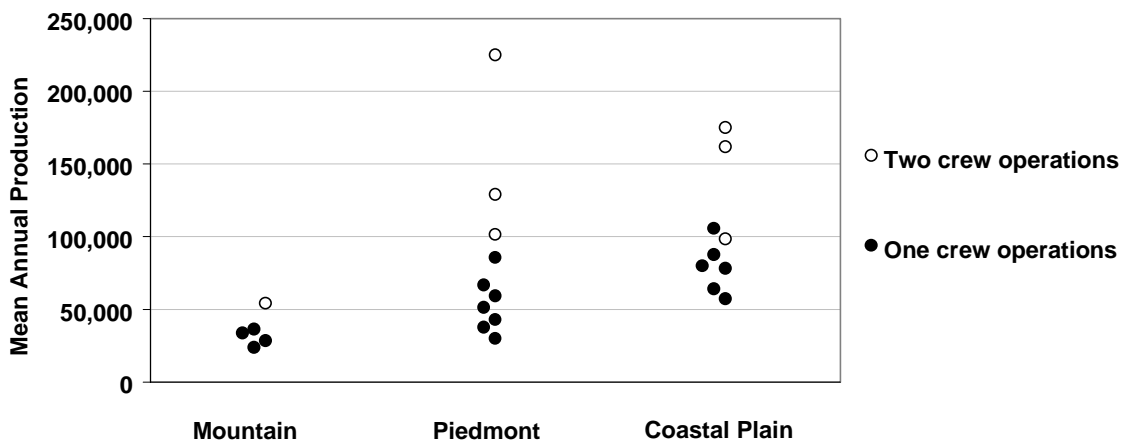


Figure 4.4 Operation size and crew structure by physiographic region.

### 4.3 Business Backgrounds and Origins

Thirteen firms, just over half of the sample, were family jobs. If key people in the operation were close relatives of the owner and there appeared to be a likelihood that the business would remain in the family, then it was considered a family operation. Of the eleven “non-family” businesses only one employed a relative. In addition, two of the contractors with non-family jobs contracted some trucking out to their brothers. Table 4.1 helps illustrate the situations in regards to family involvement that were observed.

Eight of the twenty-four owners (33%) had a father who was in the logging business which allowed them to work into the business. One of the contractors was the fourth generation in his family to be a logger. Twenty-five percent of the businesses are likely

to have a third generation or more of family ownership while an additional 46% have the potential to extend the operation to a second generation. Nine of the thirteen family businesses have a younger member of the family who is involved in the business and capable of taking over when the current owners decide to retire. Three of the thirteen family businesses (and five of the businesses that were not considered a family operation) have a son or daughter with the potential and interest to grow into the business, but who is still too young to be active. In one of the family businesses, the father is a senior member of the business, his son is running the business, but there is no member of the family is available to take the business over in the coming years.

Table 4.1 Family involvement in business across the generations.

Type of Operation	FAMILY		NON - FAMILY		Total
	Logger	Not a Logger	Logger	Not a Logger	
Contractor's Father					
Contractor has a family member involved in and fully capable of running the business	5	4	0	0	9
Contractor has younger family member with the potential to run the business	1	2	0	5	8
Contractor does not have a younger family member to someday run the business	1	0	1	5	7
Total	7	6	1	10	

Figure 4.5 shows only four firms with 40% or more family employed. These four firms are single crew operations ranging from three to seven employees. Larger firms tended to have less family employees, with family members employed typically in managerial, bookkeeping, or crew supervisory roles. Figure 4.6 shows that family jobs tended to fall into the lower end of the production spectrum found. In small family operations, where there are no purely managerial or supervisory roles, family members are typically machine operators and rarely chainsaw operators.

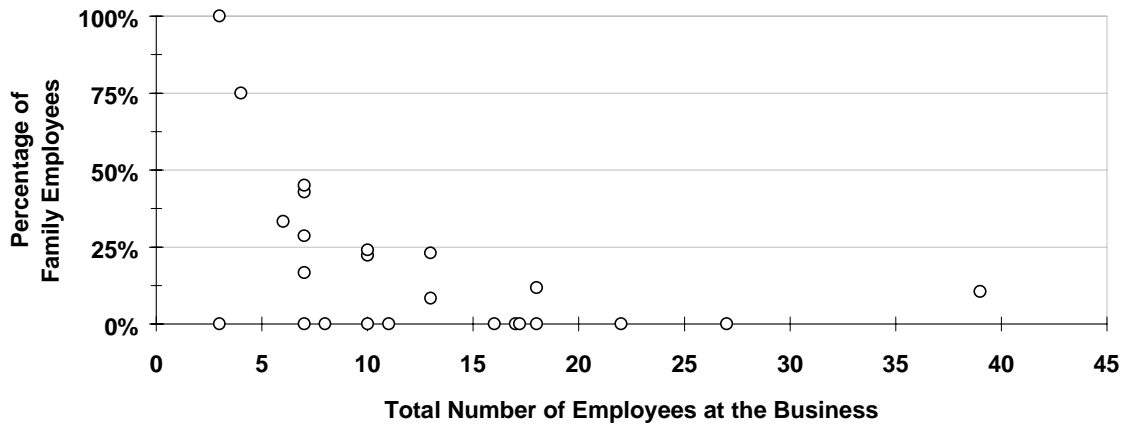


Figure 4.5 Percentage of family employees versus total number of employees.

Contractors, without family ties, came into the logging business in a variety of ways. Two of the contractors were previously in trucking. Two others with college degrees were involved with forestry and timber buying. Another two were involved in the sawmilling. Four others were in farming. One was in a building trade, married a logger's daughter and in time bought his father-in-law's business. Two others worked in blue collar jobs and got into logging as a chance to do something they enjoyed, and to be entrepreneurs. One contractor was in the equipment sales and service business.

#### 4.4 Business Organization

Four types business organization were found among the twenty-four businesses.

Sole Proprietorship	8
General Partnership	2
Subchapter S Corporation	8
Full Corporation	6

A third of the businesses were set up as sole proprietorships. Figure 4.6 shows that sole proprietorships were dominated by small family businesses. Some sole proprietors intended to keep this form of organization because they felt they had more control over the business. Others were weighing the advantages and disadvantages of incorporating their business, and in time, thought it would be likely that they would make a change. A general partnership is very similar to the sole proprietorship. Two general partnerships were in the set of contractors, both partnerships were formed by family.

Incorporation, in a full corporation or subchapter S form, was the preferred method of organization. Fourteen of the twenty-four (58%) businesses were incorporated. Several contractors have switched from sole proprietorships and general partnerships to subchapter S corporations in recent years, often based on advice from legal and accounting professionals. The primary motivation for incorporation was liability protection and improved tax liability. For others incorporation was the best way to transfer ownership of the business to the next generation of their family in terms of taxes and owner's retirement.

The general trend is that larger businesses tended to be fully incorporated, medium sized businesses organized as subchapter S type corporations, and smaller family businesses are under sole proprietorships.

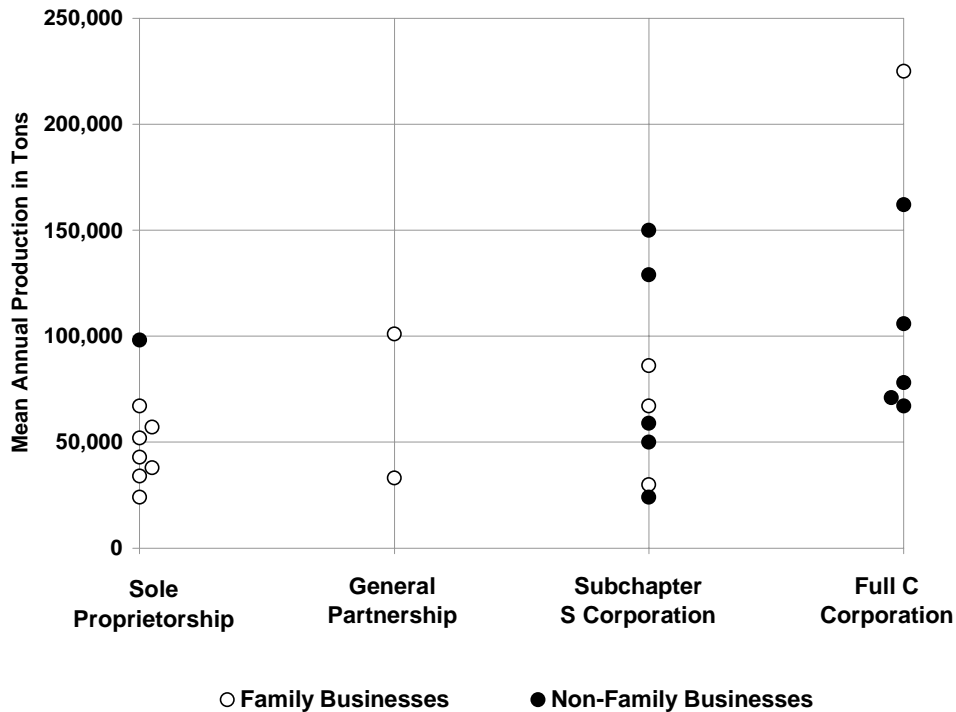


Figure 4.6 Business organization, family involvement and mean annual production.

Stability and longevity are desirable characteristics in contractors from the perspective of contracting firms (i.e. procurement organizations). As mills and contractors forge preferred supplier relationships, both parties like assurances that the partnership will endure. Family involvement provides a sense of stability and longevity in a logging firm, but may not insure survival of the business if the owner dies or gets seriously sick or injured. However, the proper organization form based on advice from an accounting and legal expert can help make such a transition less risky and more feasible.

The businesses studied varied greatly in age, though most were relatively young. The oldest was established in 1950 by the father of the current owners. The oldest firms are now organized as corporations. Fifty-eight percent of the firms are younger than twenty years old with the youngest business starting in 1988. Family firms were relatively older with a median age of 22 years, while non-family firms had a median age of 15 years. The

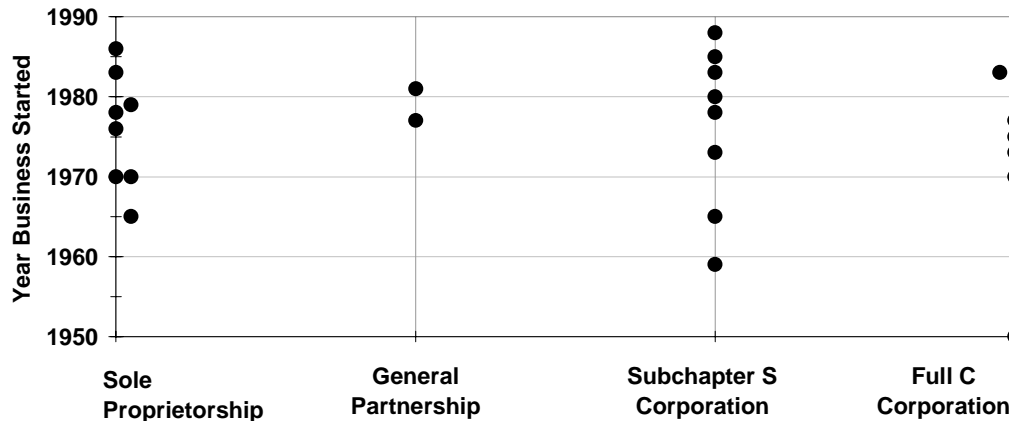


Figure 4.7 Year of business establishment and type of organization.

eight youngest firms started up in the 1980s with the current owners now ranging in age from 32 to 51. All graduated from high school, six went on the college with one completing one year of college, three receiving two-year degrees and two receiving four-year degrees.

#### 4.5 Stumpage Acquisition

Ninety-seven percent of the volume harvested during the study period was purchased by the contracting firm. While in most cases the contracting firm was a pulp and paper mill, three contractors had to rely on a wood dealer for a large portion of their stumpage. A third of the contractors did not buy any of the own timber, relying on the contracting firm to supply stumpage. Half of the contractors bought between 1% and 5% on the timber they harvested on an annual basis. These contractors typically buy smaller tracts when they are contacted by a landowner based on outstanding professional reputation from past work. Loggers can time the harvesting of these small tracts to adapt to weather, quota and the needs of their procurement organization. Four of the twenty-four firms stood out from the rest as being more aggressive in acquiring their own timber, buying from 8% to 25% of their own stumpage. Figure 4.8 shows three of the four firms produced at or

below 50,000 tons per year, while one contractor, averaging 130,000 tons annually, was interested in buying all he could. This contractor also was the only one to contract with two different mills.

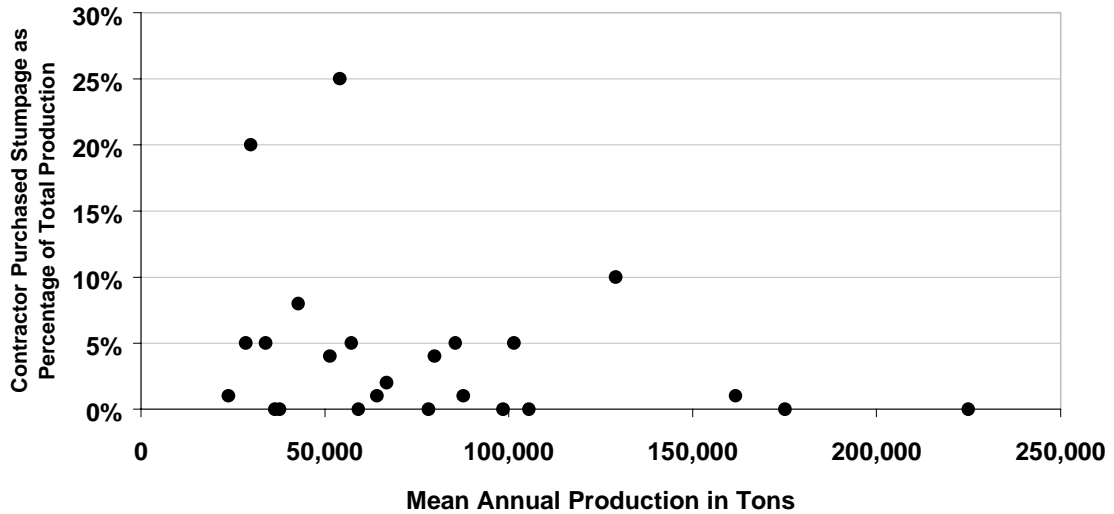


Figure 4.8 Contractor purchased stumpage versus annual production.

All the loggers felt they could rely on their contracting firm to provide the bulk of their stumpage needs. Timber buying provides an opportunity to expand their entrepreneurship and independence. Reasons for not buying more tracts included: 1.) markets were too competitive for gatewood prices, 2.) takes too much time away from managing the logging business 3.) lack of adequate cash flow to make lump-sum purchases.

## 4.6 Personnel

### 4.6.1 Woods Labor

In most cases the number of people employed by the firm varied during the study period (1988 to 1994) and often there was variability during the data collection period (January 1994 to December 1995). Some crews showed more stability in regards to labor force than others. Changes in the particular individuals and number of employees working for a contractor occurred for numerous reasons. Temporarily reduced production due to

quotas was occasionally severe or long enough to force contractors to reorganize the crew(s). Labor turnover frequently caused shifting around in crew size and structure. Chainsaw operators and skidder drivers were the positions experiencing the most turnover. When an employee was fired or quit, replacement might be immediate or delayed. Changes in crew size were noted and tracked as well as possible with periodic site visits and phone calls. An average crew size for the year was used in these following analyses. The use of independent sub-contractors was observed only in the trucking phase for this set of contractors.

The total number of employees per business ranged from three to thirty-nine. 183 productive woods workers were tallied across all businesses. Workers classified as “productive” actually operate a machine. Twenty-one support employees were counted. These include fifteen woods support (foreman or mechanic) and seven office support (secretary or bookkeeper) personnel.

Seventeen of the logging firms studied had only one logging crew. The other seven firms had two crews. Two contractors had expanded their businesses from two to three crews towards the end of the study period but for the majority of the time could be considered as two crew jobs. For analysis purposes thirty-one crews were studied. Previously figure 4.4 showed that two-crew firms tended to be larger than single-crew firms.

Woods crew sizes ranged from three to nine productive employees with some firms having more than one crew. Figure 4.9 shows the distribution of crew sizes by region. The largest crew sizes existed in the Coastal Plain with a mode of 8, closely followed by the Piedmont where crew sizes of 6 are most common, and finally crews in the mountains were the smallest with a mode of 3 productive members. Tract size was a consideration for some contractors in their optimum crew size. *I get better production by keeping my equipment and men spread out. I've got 5 skidders working over 3 crews to produce 150 loads a week, that's better than having 3 skidders producing 60 – 70 . . . smaller crews lend themselves to the smaller tracts I often have to log. So a smaller crew moves less*

*and I don't care who you are, you are going to lose at least half a day when you move. Now we do whatever it takes to decrease on that lost production time by moving and doing dozer work on weekends . . . I try to match the personalities within the crew, and of course the locations so there's less traveling.*

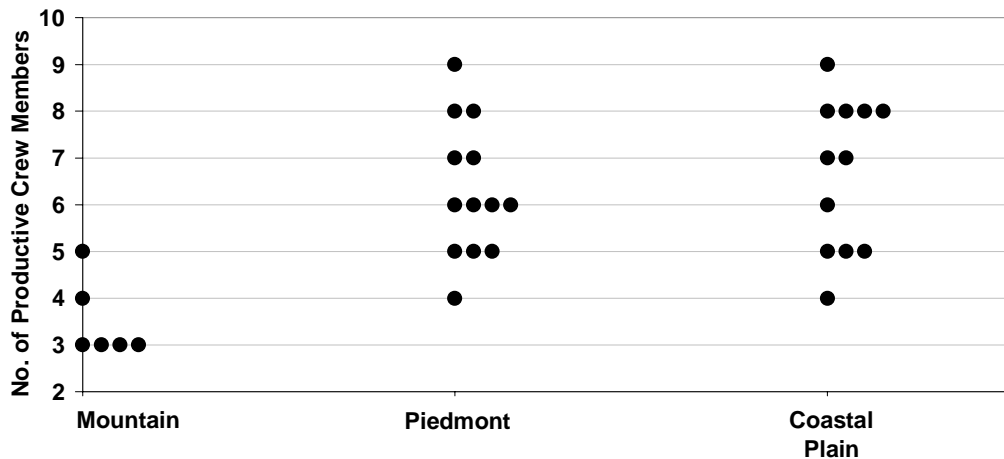


Figure 4.9 Productive woods workers per crew by physiographic region.

Productive woods workers operated skidders, feller-bunchers, loaders or chainsaws. Skidder drivers accounted for 67 of the 183 productive woods workers tallied. Contractors usually preferred to train new operators on skidders. Highly skilled feller-buncher operators accounted for 32 of the productive wood workers tallied. Loader operators, accounting for 35 of workers tallied, have critical responsibilities on the crew. They understand wood specifications at several mills, decide load sequencing, and load trucks to maximize weight within the laws. Twenty-seven percent of the productive woods workers tallied were primarily chainsaw operators. Several contractors depend on men with chainsaws as their primary delimiting method. During site visits it was apparent that keeping caught up with the delimiting was imperative for the flow and productivity of the job.

One contractor mentioned that he needed a crew of six to keep production stable. Four people would be adequate for most tracts but over the long term his production would be too variable. *On some tracts, some types of wood four people is more than adequate to*

*keep trucks busy, other times extra men are needed on powersaws or to operate a skidder. Another contractor, logging both pine plantations and natural stands, echoed this sentiment. When you switch to hardwood so quickly, you've got to have those sawmen ready, you can't be looking for someone to work for you. Another contractor adopted a similar approach to keeping sawhands on a steady payroll. I don't like to pick a man up for a month and then let him go. I don't try to get around the insurance and social security by calling him an "independent contractor". We run it that way, if that guy needs taxes taken out of him, we do that. Many contractors expressed the unreliability of sawhands with remarks like this: We don't really need four toppers, but sometimes one of them will lay-out so we need to have four so we are sure to have at least three.*

#### 4.6.2 Method of Payment

The method of compensating labor must adequately motivate and retain employees while being compatible with the contractor's cost management and cash flow strategies. Four methods of compensation for employees were found. In some firms not all employees were paid by the same method. The following list gives the breakdown of how firms paid general woods labor.

Hourly Basis	12
Daily Basis	4
Production Basis	7
Salary Basis	1

In six of the firms that paid by the hour and one of the firms that paid by the day, there is a "key person" on salary. This key person may be a loader operator, feller-buncher operator or crew foreman. In each case it was a person with several years of tenure, making important decisions affecting day to day production. Figure 4.10 shows no strong relationship between the level of production of the operation and method of payment. Both the largest and smallest jobs paid most of their labor on a production basis. Of the four operations paying on a daily basis, three were in the piedmont and one was in the mountains.

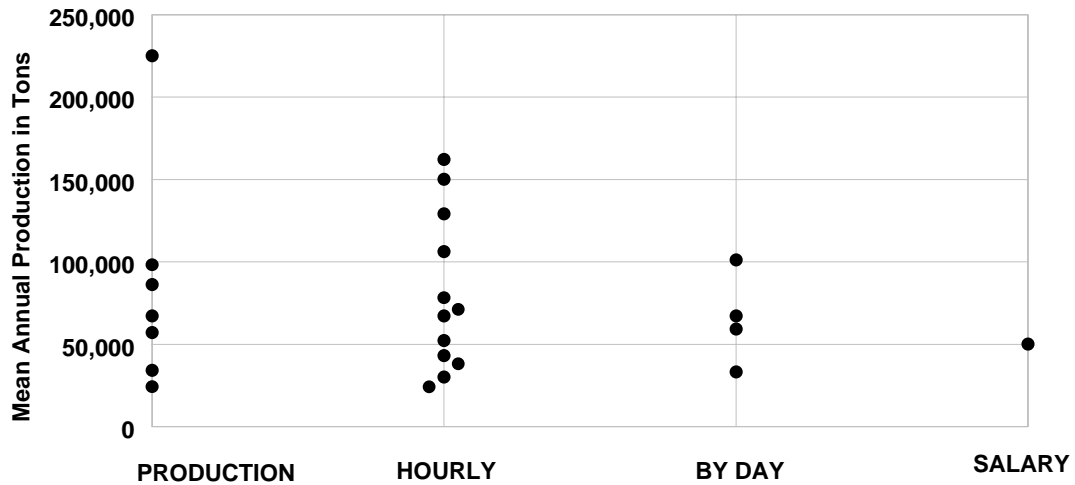


Figure 4.10 Method of compensation for regular woods labor by production.

Contractors had arrived at different ways to compensate employees in ways that retained key people and kept the crew motivated. Some firms had used other methods of payment in the past but had to make changes strike a balance between a pay method that provided a steady weekly check with incentive for high production, and one that permitted the contractor to manage cash flows effectively. One contractor paid on a daily basis and experimented with a production bonus. He found he was paying more than he could afford on six-day weeks with very high production, and so went back to a generous rounding of days worked. For instance, showing up for work on a morning that turned out to be too wet to work was rewarded with a half-day's pay. Other contractors try to find repair and maintenance work for employees during times of wet weather and quota to improve the weekly wage of their employees. Other contractors would actually work on days when weather or other conditions limited production to keep the labor more fully employed: *If it was just me then it wouldn't have been worth it to work all day and break even. I've got money saved up; I can buy groceries. Working on these marginal days puts my crew to work and they definitely count on their paycheck each week.*

One contractor had this to say when asked about payment on a production basis: *“there is no other way to pay if you want to get production.”* Another contractor gave this justification for paying on a production basis: *“I consider this strictly a production job. I get paid based on what we get done, and that’s the way they get paid. I guess I’m a little tough considering the way things are today but there’s no slack for sick time either...”* He pointed out that his crew did very well as far as annual salary.

One contractor felt that payment on a daily basis was fair to his employees and left management of production to him: *and as long as the government doesn’t get on my case, I’ll keep paying that way.* Another contractor had to modify daily based compensation because his role as an operator and supervisor had changed. He went to a daily basis with weekly production bonuses for all crew members: *“When I stayed on the loader production wasn’t a problem. I could keep everybody’s rate of speed up, I knew exactly when that skidder should get back. But this way of paying, it gives a little added incentive...they don’t stand by the water keg quite as long. They push the trucks on out to get another load. The truck driver is less inclined to want to talk to your loader man about what happened over the weekend or whatever.*

Finally a contractor gave his reasoning for paying by the hour: *It is simpler to figure and keep up with. Because when you’re paying on a per load basis I would think you’d have to make allowances for things such as breakdowns beyond the control of the employees and I mean there are so many variables that could have an affect on that. I also think that you would have fewer injuries this way. People are paying more attention to what they are doing than if they were just trying to get the extra five loads to make some extra money.*

#### 4.6.3 Fringe Benefits

In addition to monetary compensation, many firms provide fringe benefits to attract and keep employees. There are three basic categories of fringe benefits. Legislated or required fringe benefits include workmen’s compensation insurance and payroll taxes

such as unemployment insurance and social security. Voluntary fringe benefits have a direct and substantial monetary value to the individual employee. They include paid holidays, paid vacations, health insurance, and retirement plans. Non-monetary fringe benefits improve the work environment and cohesiveness of the crew. Christmas parties, fishing trips, uniforms and transportation to work as well as amenities such as enclosed equipment with air conditioning and AM / FM radios, and free drinks on the job are all examples. Benefits are often given out on a basis of tenure, as a reward for dedication to the job. When asked about labor turn-over problems one contractor commented “*it used to be very bad, every two weeks a whole new crew. Benefits have helped that situation out a lot.*” This contractor required a six-month period before getting on the health insurance plan, and in two years the employee would be eligible to start a retirement plan.

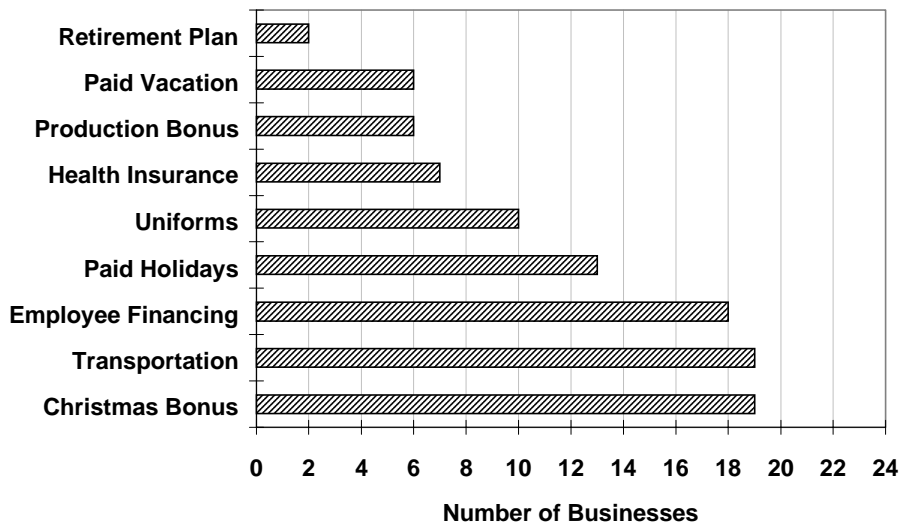


Figure 4.11 Frequency of common fringe benefits.

Transportation and Christmas bonuses were the two most common benefits.

Transportation as a benefit implies that the worker can come to the shop or gathering place of the operation in the morning and ride to the logging site. In some larger firms vans were used to pick up some workers at their homes. In either case the employee does not start working until he arrives at the logging site. The largest firm as well as a medium

sized family operation were able to provide a retirement plan for all employees. Wage advancing or employee financing was common, however most contractors indicated it was done cautiously. Some contractors had lost large amounts of money to employees who quit or were fired while in debt. *I've loaned more money for stoves, hot water heaters, kids going to doctors, you know all this good stuff. Sometimes you get it back and sometimes you don't.*" Another contractor had a very stable crew and would advance money to anyone of his crewmen without hesitation and interest-free.

Here's what another contractor had to say: *We try not to do that; I tell them all I'm not their banker. But when you get a fella coming over saying 'my baby is sick', I guess I'm soft hearted when they start talking about their kids and stuff like that. But if I know the guy is up to devilment or needing it for the wrong reasons, I won't loan him money. We probably have several thousand dollars as far as losses, as far as employees running up debts. And that's one reason I don't do it quite as much, only if I know the guy is in real need or to advance him a days pay is not a problem. One of my older men had his house burn, he needed help, so I helped him out.*

Many contractors would like to provide better benefits and pay, but complained that rates were too low or quotas too severe to be able to pay for such things all year round. One contractor was approached by his crew about paid vacation time: *"As soon as [contracting firm] starts paying me for a weeks vacation, I'll start paying them for a weeks vacation."*

The national debate on health insurance got the attention of many small business owners. One contractor said if the government mandated that employers provide health insurance, he would sell his business without hesitation, unless they came up with a way to combine the two forms of insurance (health insurance and workers compensation). *"Somebody told me that it would cost \$2,500 - 4,000 each to provide full health coverage to these workers. For me, that would be about \$30,000 extra on top of the \$30,000 already being paid out in workmen's comp."*

Seven contractors were tallied as providing health insurance, however the amount of coverage and the employers' share of the cost varied. At the most basic level the contractor finds a plan through a health insurance company that his employees can join. At the next level the contractor pays the base premium and the employee can buy additional coverage for his family. At the highest level the contractor can afford to pay full health coverage for the employee and his dependents. Most of the contractors indicated their health coverage plans fell into one of the two lower levels. Like many small businesses the small group size makes insurance more costly. If any members of the crew have a pre-existing condition, costs can be prohibitive. *"We furnish a little group insurance thing, that the employee pays for himself. We have that on certain ones, a lot of them decline it. They may start with it but when they see how much is getting held out from their pay, they say 'whoa, I don't want that anymore.' We can't afford to pay for the hospitalization, there's just not enough money there for us to afford to do that. We talked to some insurance people about getting a larger group in hopes of achieving some savings of the other loggers that worked under [contracting firm]. I have a lot of people that come to me interested in working and say 'what kind of health care plan do you have?' I know guys who work at jobs they may not particularly like simply because of the insurance. So it comes back to what you can afford to do as far as attracting quality help and keeping them so you have experienced help.*

#### **4.7 Owner's Role and Method of Management**

The owner's role as an operator, supervisor, and manager is influenced by the level of production (Figure 4.12). In eight smaller firms the owner(s) worked as a member of the crew while supervising and managing the operation as a whole. This typically involved operating a key machine such as a feller-buncher or loader. The owners of ten medium sized firms assumed a more supervisory role as their business grew, operating a machine only when the regular operator was absent. Medium sized operations often develop working foremen or "key men" that can supervise in the absence of the owner. *I'm seeing*

a logger becoming more a business type than a hands on type. I did it for years, hands on like that. But when you step back and look back at the thing, you realize 'we should do this or that'. A lot of times you're better off stepping back versus being right in there doing. This contractor wanted to try to plan the crew's strategy for future weeks and tracts and do longer term business planning, while leaving the tactical decision making for maximizing daily production to his key man.

Larger operations require more supervisory personnel and the owner's managerial responsibilities frequently take him out of the woods. Eight foremen were employed at six firms where the owner had a primarily supervisory and managerial role. These foremen coordinated the trucking and logging, performed required field repairs and maintenance, redeployed the operation as necessary to maximize weekly production. Most foremen were very experienced and some had run their own logging jobs. One contractor had a foreman with thirty-four years of experience. *You don't have to worry about anything with a guy like that, you know he'll be able to handle whatever comes up.*

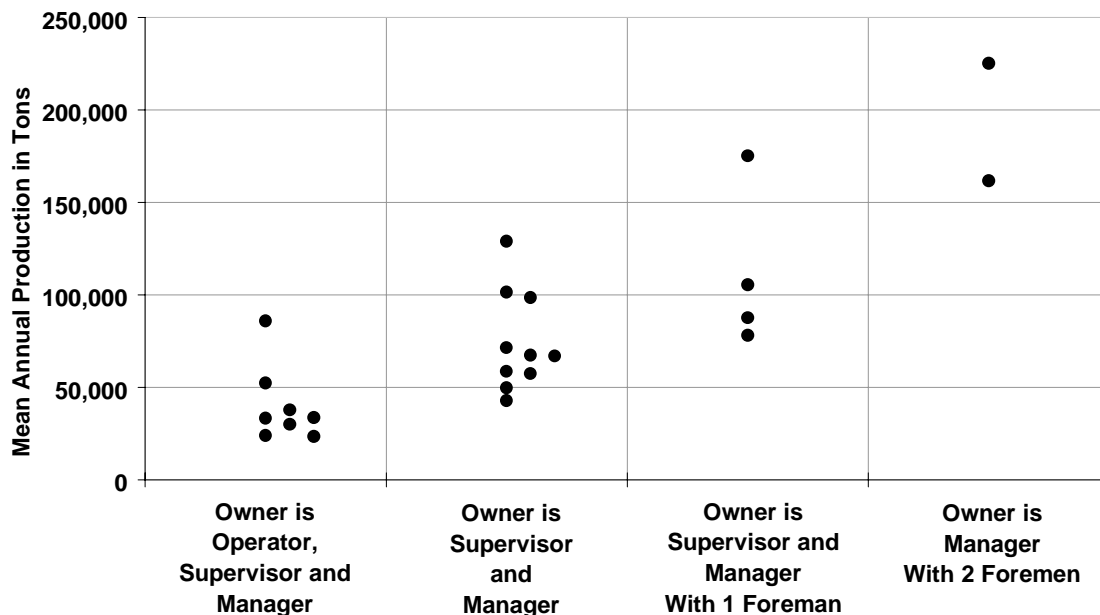


Figure 4.12 Owner's role in the business in relation to production.

Many of the contractors in the study were using the latest in communication technology to improve the productivity and safety of their logging crews. *Communications is the key to keeping things smooth. My key man is on the cutter. When I'm looking at timber or getting parts, if we need to talk we have the cell phone.* Contractors described their cell phones with remarks such as *the best purchase I ever made* and *the bills run about \$300 a month, but I wouldn't operate without one.* Having a phone link to the outside world is very useful. If there is an accident, an ambulance or hospital can be alerted immediately. Some contractors find a cell phone can allow them to have the parts for repairs the next day instead of waiting one more day. Other contractors find the cell phone lets them actually move more loads by keeping tabs on what the mills are taking and where unloading bottlenecks are occurring. It also serves as an alternate means of contacting a dispatcher of contract hauler when their services are needed.

Better communication links between their jobs and the outside world are allowing contractors to generate more loads per week. Many saw the productivity and safety benefits of two-way radio communication links between employees as well. Contractors cited many examples of how inter-machine communication could help the crew work together more efficiently. The loader operator often has the best vantage point to direct the operation. The loader operator could direct the feller-buncher and skidders to favor a certain type product as the sorts of particular products underneath the loader become too low or plentiful. One contractor was incredulous that intra-crew radio communication would help the productivity of the job. *If you get radios in every piece of equipment, you'll have a lot of chatter. You've heard this with the truckers. There's just a constant rattle going on, I don't know how anybody listens to that all day.* About 10% of the contractors had a CB or cell phone in the loader for coordination with the truckers. A couple of the contractors who operate equipment were carrying pagers. This allowed them to know when people were trying to call them when they were away from the cell phone. One contractor went through some trouble to rig a cell phone into the feller-buncher. Other owner-operators saw the value in such a set-up: *I really need one in the*

*buncher, in case somebody was hurt seriously, they would have to come out and get me which could take a lot of time.*

About 35% of the loggers in the study used a computer in their own home or office to help manage their business. Many of those who did not, thought they would be in the near future. In other cases, a professional bookkeeper hired by the contractor provided computer based accounting. Accounting and Payroll were the two most common areas to use computers. Loggers were using simple software such as Quicken as a means to keep track of costs in a fashion that would be compatible with their accountants' needs. A few contractors expressed interest in using computers to keep equipment maintenance records.

## **4.8 Equipment**

As stated previously, the contractors in the study were all highly mechanized treelength and longwood operations. Several of the contractors in this study had lived through the mechanization revolution in southern logging from loggers dream to forklift to knuckleboom. Several contractors pointed out equipment technology has improved over the past decade allowing higher production with the same equipment mix. *Anything I can do to cut labor costs is what I'd like to do. By that I mean increased mechanization. This job has 3 to 4 less people than it did 10 years ago because of improved mechanization. We did this by using pull-through delimiters to virtually eliminate chainsaw use. There was a time when loggers kept a "spare man" on the deck. Because of safety concerns and the increased cost of workers comp insurance you can't do that anymore. We used to use four skidders to move the same amount of wood we now get with three. We have more powerful skidders now and run bigger tires. That has also reduced the crew size.*

### **4.8.1 Felling**

All contractors used feller-bunchers. Chainsaws were used to fell trees only in unusual circumstances. Four-wheeled feller-bunchers were found on 87% of the jobs. Three coastal plain crews were running excavator based machines in wet ground conditions to reduce impacts and improve trafficability, while one piedmont crew was running a tricycle style machine for thinnings. Felling heads were chosen based on the type of timber to be harvested and specifications of receiving mills. Twenty of the thirty-one (65%) crews ran sawheads. The rest used shear heads. Felling heads were usually of the 20-22" capacity.

#### 4.8.2 Skidding

Grapple Skidders were used exclusively. There were no cable-only skidders utilized by the crews. In the rare event trees needed to be cabled, the winch on the grapple skidder was used. Skidders were the most common type of spare equipment kept on the job. Spares were used in the event of a breakdown of the primary skidder(s) but most commonly employed to assist the primary skidder(s) when drags became long or slow.

#### 4.8.3 Delimiting

The intensity of delimiting work required was determined by mill specifications. Gate delimiting was common. On some jobs the material was moved to a deck where remaining limbs were removed with a chainsaw and the stem topped to a specified diameter. Other jobs used a pull-through delimeter. Loving (1991) had noted that about 25% of the loggers in his sample had purchased pull-through delimiters by the end of 1990. By the end of 1995, about 50% of the crews in this study were operating with pull-through delimiters. These delimiters have proven to be popular, especially in crews that have a mix of Virginia pine (*Pinus virginiana*) and hardwood pulp. Some loggers pointed out that the delimeter itself was only part of the increased capital investment since a more powerful loader was also required and loader life was shortened. One contractor had invested a substantial amount of capital in a stroke delimeter to do a better job of meeting sawlog specifications and reduce labor costs. It was a highly productive machine

with a qualified operator, however eventually the contractor was forced to sell it because of the high fixed expense and the high expenses associated with moving it.

#### 4.8.4 Loading

All crews used knuckleboom loaders mounted on trailers. This meant the loader was fixed in place until moved by a truck or skidder to another landing. Towards the end of the study, one contractor had purchased a tracked loader for shovel logging which could be used as a self-propelled knuckleboom loader. Slasher saws were connected to the loaders to buck up sawlogs and longwood pulp on about 50% of the operations. Loaders often spent more time sorting than loading. Multiple product sorts take up a great deal of space around the loader. Two jobs frequently had two loaders working in tandem to assist in mechanical delimiting and provide more room to store sorted wood. Five other loggers had an extra loader and could arrange them this way but typically used them to facilitate moving to a new tract or set up on another landing to log the tract as two “sides”. Directly after loading the load is trimmed to remove any miscellaneous vines, stubs or small topwood. The majority of loggers were using a regular chainsaw to trim loads. However a couple found adequate power pole saws to do the job satisfactory and much safer.

#### 4.8.5 Support Equipment

Bull dozers were the most expensive support equipment kept on hand. Only six firms did not own a dozer (figure 4.13). All loggers in the piedmont own dozers. Dozers were used primarily for preparing landings and decks, maintaining woods roads and installing water bars. Three jobs used graders to perform a more precise level of road maintenance particularly beneficial in hot loading jobs. All jobs had a service truck outfitted for transportation of the crew and field repairs. Some service trucks carried fuel, other times a separate truck or trailer was used for this purpose.

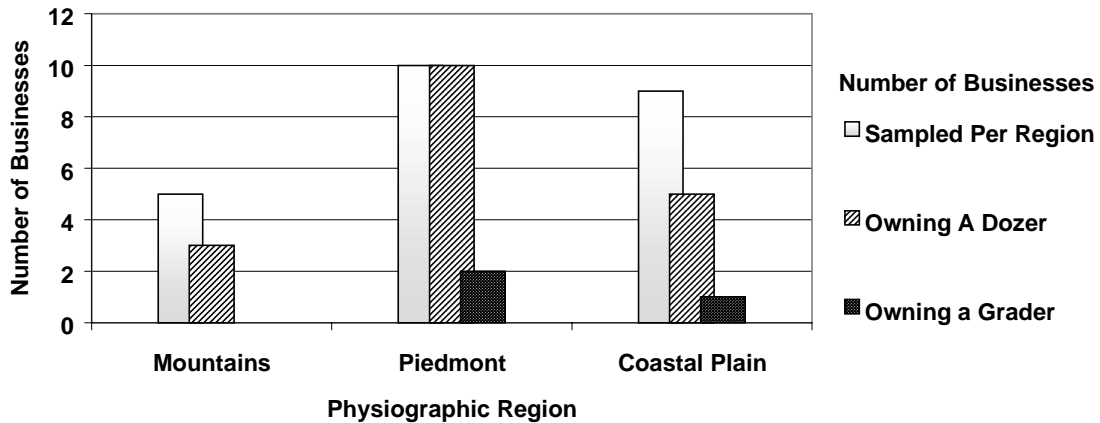


Figure 4.13 Firm ownership of dozers and graders by physiographic region.

#### 4.9 Trucking

All contractors hauled with tractor-trailers. Two thirds of the jobs loaded directly to haul trucks while one-third used the set-out method. Each job had their preference but most jobs were flexible enough to go either way. Crews preferring to set out trailers did so for a variety of reasons. The most common was an agreement with the contract hauler to have loaded trailers waiting at the road side. There is less wear and tear on the over-the-road trucks and more time spent hauling. Setting out trailers also allowed the logging crew to operate on a different schedule from the truck drivers. For example, the truck driver might arrive very early in the morning and hook onto a load that was loaded the night before.

All the loggers in the study expressed concerns about maximizing the weight on every load but were adverse to overloading because of stricter enforcement of weight laws. *“I look at my load weights every week, everybody does that. The hardest thing to do is getting that weight, not too much, not too light. It is very difficult to average 50,000 without having too many overweight loads. If you can get in the range of 48 - 49,000 you are doing well. If you aren’t maxed out in weight you can figure that for every 20 loads you are missing one load. That’s your profits”*. Three loggers used on board scales.

Two were very satisfied, but the other was not. This contractor felt the system fell out of calibration too often and it was too complicated for the truck driver to recalibrate the device. The extra technology to make on-board scales work for set-out trailers was deemed too complex. A majority of the loggers said there was supposed to be regular communication between the truck drivers and the loader operator about how the loads were weighing. Extra effort was required to make sure this communication went on in those operations using the set-out method.

Nineteen firms owned over the road trucks and hauled a large portion of their own wood. Five of the nineteen organized the trucking side of their business as a separate business. None of these separate trucking businesses were sole proprietorships, three were subchapter S corps and two were full C corporations. Seven of the nineteen firms had enough trucking capacity to be completely self-sufficient in trucking for some years of the study. During other years they would need to sub-contract a small amount of hauling. Other contractors did not structure their trucking capacity to be able to handle all of the production of the logging job and regularly used contract haulers. For two contractors this was a way for self-employed relatives to work close to their business. Other contractors had certain markets or haul distances that they preferred to use contract haulers. *Shorter distances I just as soon run my own. The farther off you're going I think the better it is to have a contract hauler.*

Five firms contracted out all their trucking and did not have a separate trucking business. four of these firms were in the mountain region. These five firms all had a good relationship and good communication with their contract hauler to insure dependable service. Figure 4.14 illustrates the trucking strategies and business organization in terms of business size.

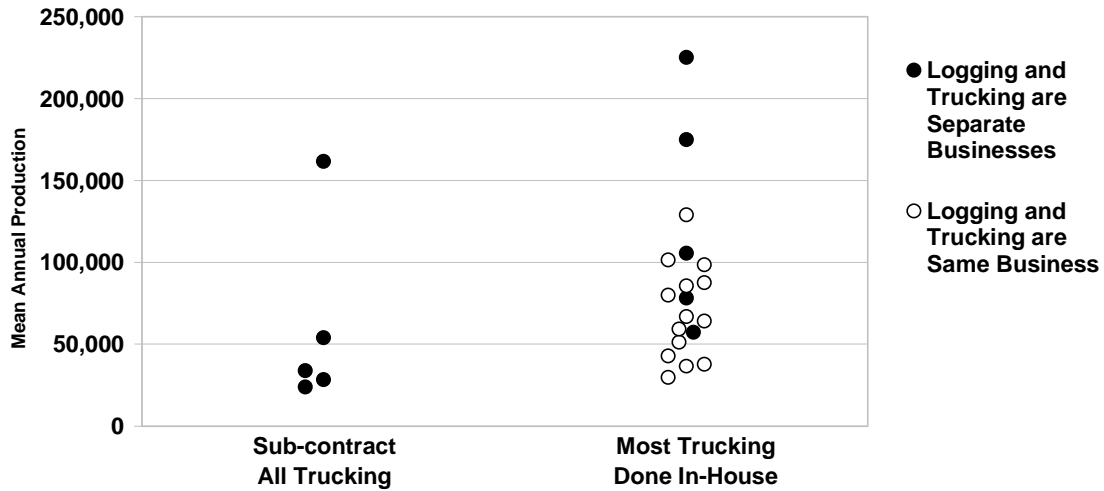


Figure 4.14 Contractors’ trucking strategies and business organization by production.

Five contractors separated logging and trucking businesses as two separate corporations. One contractor gave reasoning similar to others in the study who had separated the businesses. The first was that he was paying workmens compensation insurance at expensive logging rates on his drivers with all the overtime hours that they worked. He had to prove to the insurance company that all the drivers did was in fact drive and that they did not get involved with loading and trimming loads as some drivers do. Secondly, he noted liability was a major concern as well. *If you have a wreck, you could lose the whole deal.* Having the businesses separated helped limit the damages that might be collected in a lawsuit.

The nineteen firms involved with trucking employed between one and sixteen truck drivers with a median of five. About seventy-five percent of the truck drivers were paid on an hourly basis. Some contractors paid drivers on a production basis, however they commented that it often required adjusting compensation for lost production due to waiting at the mill. For some contractors, truck drivers were their most unstable employee position. Difficulty in finding and keeping good drivers was pushing many contractors to increasing the proportion of contract hauling. *We have a major turnover of truck drivers and its been that way for many years. They’ll go “over the road” for a little while, get tired of the road, then run short for a while, back and forth, that’s just typical.*

*I guess my longest term truck driver right now has been just over a year. The contractor went on to give his criteria for hiring new truck driver. Most everybody we hire, I want experience, especially a truck driver. A truck driver can do so much damage to your business if he gets in an accident. I want that guy to have driven a log truck. I get a lot of calls: 'I've got my license - I'm ready to go.' And I say what have you hauled before... The contractor explained his philosophy on driver's ability. He looked at both driving record and years of experience. A guy that's experienced, even though he's got a few violations, he's probably a whole lot better to have on your truck than a greenhorn with a perfect driving record.*

#### **4.10 Summary**

This chapter provided an overview of twenty-four contractors and their businesses. They range in age from 29 to 65 years old with most being about 50 years old. The contractors are well educated with 92% completing high school and almost half receiving some college education. Annual production is descriptive of business size. Production ranged from about 20,000 tons to nearly 250,000 tons per year with a median level of 61,000 tons per year. The businesses located in the mountain region tend to be the smallest and coastal plain operations tend to be the largest. The piedmont region has the widest range of business sizes. Over half of the firms are family operations and almost three-quarters of these firms seem likely to extend into the next generation. Family firms tend to be smaller and organized as sole proprietorships. Fifty-eight percent of the business were incorporated. The median business age is 18 years suggesting that these business are relatively young. All firms received at least 75% of their stumpage requirements from the contracting firm. Four businesses acquired more than 5% of their own stumpage.

Seventeen of the contractors organized their woods labor as one crew, while seven others formed two crews. The largest crews are in the coastal plain and the smallest are in the mountains. Skidder drivers and chainsaw operators make up the greatest number of positions and also experience the most turnover. The most common method of

compensation is by the hour followed by production. Key operators or foremen are sometimes salaried. Over half of the firms provided paid holidays, transportation to and from the logging site, Christmas bonuses and employee financing as fringe benefits. About a third provided some type of health insurance. Eight of the owners operated equipment on a regular basis, while the others spent most of their time in supervising and managing the operation. Larger firms employed foremen to assist with supervision. Cell phones are used frequently to coordinate operations and maximize production.

All contractors used similar treelength harvesting equipment and processes. Some owned more specialized equipment such as excavator based feller-bunchers or a tracked loader. About half of the operations used a pull through delimeter. Seventy-five percent of the jobs owned dozers or graders to maintain haul roads. Five firms contracted out all their trucking needs with the remaining firms doing some or all of their own hauling. Six contractors had incorporated a separate trucking business.